

DATE 15 Sept 64
Pg. # 1

time species # dir. hgt. remarks loc.

1330 Begin observations

1415 Common Noddy 2 SW low over water

1419 Bulwer's 1 SE

1420 Comm. Noddy 3 W

1422 Frigate 1 S

1425 C. Noddy 2 S wave tops

1426 " " 2 E Sitting on the water

1430 RFB 5 S

WT 10 S

C. Noddy 15 S

} feeding

1437 C. Noddy 2 SW w tops

1438 C. Noddy 1 SW w tops

1443 C. Noddy 1 SW w tops

1447 C. Noddy 1 SW

" C. Noddy 1 N

1448 RFB 4 E

C. Noddy 25 S

} feeding near horizon

1454 Frigate 1 S

High above flock

1454 RFB 5 S

WT 15 S

CN 30 S

} feeding near horizon

1511 Common Noddy 15 S S W

Feeding

1517 Common Noddy 1 SW

1521 W.T. Tropicbird 1 SW

1528 R.F. Booby 1 E

1531 Common Noddy 1 E

1538 R.F. Booby 2 SE

1541 Wedgetail 1 SE

1548 Wedgets 1 S

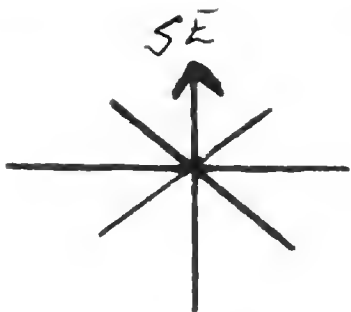
1556 Wedgetail 1 S

1558 Wedgetail 1 S

1600 Noddy Tern 1 S

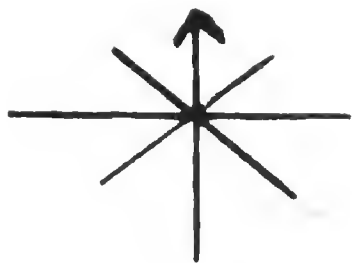
1609 Wedgetail 1 S

1616 Common Noddy 1 S



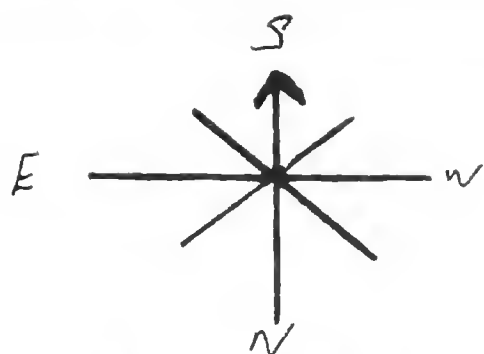
DATE 1 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1624	Wedgetail	2	NE			
1627	Common Noddy	1	SE			
1630	R.F. Booby	2	SE			
1634	Wedgetail	2	SE			
1635	Wedgetail	1	SE			
1637	Wedgetail	3	SE			
1638	Wedgetail	3	S			
1639	Wedgetail	1	S			
1642	WT	60	NE		3 dark phase not feeding	
	CN	140				
	RFB	3				
1652	R.F. Booby	1	SE			
① 1643	CN	1	E			
② 1643	WT	1	E			
1645	CN	3	E			
1646	WT	1	E			
1648	CN	2	E			
1649	CN	1	E			
1650	WT	1	E			
1658	RFB	1	NE			
1659	CN	1	E			
	WT	1	E			
	CN	3	E			
1702	G. Frigate	2	NE			
1708	RFB	6	SE			
1701	WT	1	SW		All northern white phase adu lts as far as I could tell; associated but flying singly	
1713	WT	1	SW			
	CN	2	SW			
1715	CN	1	SW			
	WT	1	W			
1717	CN	1	SW		} flying separately	
1717	CN	1	SW			
1726	Wedgetail	1	SW			
1729	CN	100+	SE		} feeding	
	WT	40+				
	RFB	3+				
1734	WT	1	E			



DATE 1 Sept
Pg. # # 3

time	species	#	dir.	hgt.	remarks	loc.
1735-40	WT	12		W	Not a flock, these 12 birds travel as singles (equals 12 observations or sightings)	
1741	WT	2		W		
1742	WT	1		W		
1743	WT	5		E		
1744	WT	1		E		
1745	WT	4		E	In singles	
1745	WT	6		E	In singles	
1747	WT	4		E	"	
1747	RFB	1		E		
1748	WT	5		E	"	
1749	WT	18		E	Not a flock crossing bow as singles	
1753	WT	11		E	" " " "	
1755	WT	2		E		
1757	WT	6		E	1 immediate phase bird, not a flock	
1800	WT	3		E		
1805	Wedgetail	3		SE		
1806	Bm Booby	1		SE		
1808	R.F. Booby	1		NE		
1810	Wedgetail	6		E	not a flock	
1811	Wedgetail	3		W		
1822	Wedgetail	4		E		
1830	Wedgetail	1		SE		
1831	Shor. Petrel	1		SE	seen by watch	
1834	Bulwers P	1		SE		
1850	Emulaberrantia	1				



DATE 2 Sept 64
Pg. # 1

time species # dir. hgt. remarks loc.

6550 Observations begun

0602 Sh-Pet. sp 1 W

0619 WT 1 SW

0624 Sh. petrel 1 S

0629 WT 1 S

0815 Wedgetail 1 SW

0828 Wedgetail 1 S

0833 Bulwers P 1 S

0900 ~~White-necked~~ 1 W

0903 Wedgetail 1 SE

0915 Tropicbird sp 1 S

0919 Fairy Tern 1 SW

0920 Wedgetail 2 SE

0921 Shear-Petrel 1 E

0925 Wedgetail 1 W

0932 Petrel sp 1 SW

0945 Shear-Petrel 1 S

0948 Pt. species 1 N

10:07 Wedgetail 3 S

10:07 W.N. Petrel? 1 S

10:08 Bird sp 1 NE

1028 WT 1 S

1030 WT 2 SW

1036 WN Petrel 2 NW

1051 Bulwers 1 S

1053 WT 1 —

1054 Pt. sp. 1 N

1109 Bonin Is P 2 SW

1115 Bonin Is P 1 SW

1130 Wedgetail 1 SW

1157 Bonin Is P 1 E

1206 Shear-Petrel 1 W

1209 Wedgetail 1 E

1211 DRP 2 S

1213 Wedgetail 1 SW

~~0602~~

Dark on top light underneath (Boreas?) about the size of a Bulwers, flies more like a storm petrel

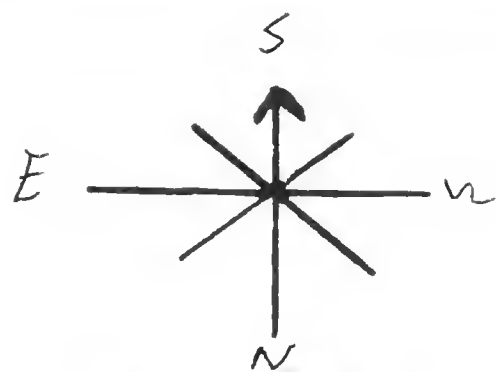
Dark-rumped?

Seen by the crewman, not me RBC

One seen well, the other probably the same.

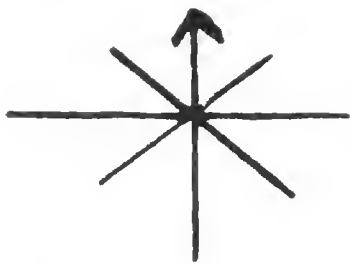
large

Sitting on water



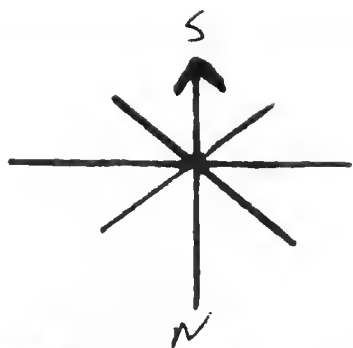
DATE 2 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1218	W. whistler	3	SW			
1223	Bonin Is P	2	W		1 sitting on water, the circling around	
1232	Bulwer's	1	N			
1234	Pt. sp.	1	N		Glanced briefly (1g)	
1405	Frigate	1	SW			
1406	Tern sp.	1	SE		Looked like it had a dark cap grey on top of wings and back white underneath and body	
1411	Red T. Tropicbirds	3	S		Sitting on water, 2 of them had no tails	
1510	Petrel sp.	1	SW		Believe it was same as one this morning. Small, brown or dark wings on top and underneath, white body, tail under tail white, flew different, wind notes high.	
1523	BRP	1	SE			
1600	Bonin Petrel	1	S			
1715	Bonin Is P	1	SW			
1850	End Observations					



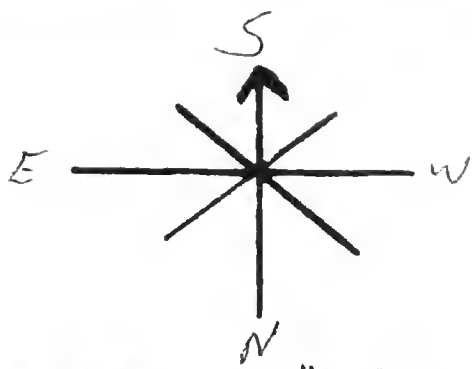
DATE Sept 3
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0610	Observations begun					
0740	R.T. Tropicbird	1	E			
0846	San Is. Petrel	1	N		Back appeared darker rather than lighter	
0859	Tern	10+			} in edge of rain squall - No possibility of more concrete identification - Feeding?	
	Sh. Petrel	5+				
0900	WTZ WTZ Shear sp	1	S		All dark bird; flying more steadily than WTZs usually do; somewhat lighter underneath. Bobby thought it was probably a C. IS. Flight not very WT	
0927	Sooty Tern	6	NE		Travelling	
0928	DR Petrel	1	N		- Seen well - all white underneath, gray ^{black} on top with white sides to neck. Could not have been dark rumped since rump was distinctly lighter than rest of upperparts - a grayish white -	
0932	Tern sp	10+	SE		- Probably right on the edge of a rain squall	
0936	DRP	1	W		and nothing more than forms discernable. Travelling	
1017	Sooty Tern	10+	W		Feeding in rain	
1034	R.T. Tropicbird	1	S		Sitting on water, in rain	
1350	Bonin Is P	1	S			
1355	Bulwers	1	N		(Vide Perry) note	
1832	Sh. Petrel sp	1	SE		Too dark for proper identification	
1835	Observations concluded -					




DATE Sept. 4
Pg. # pg. 1

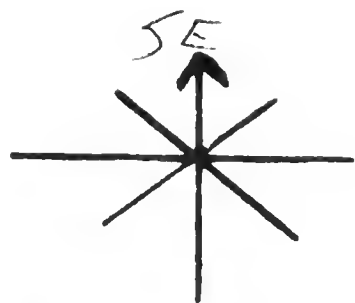
time	species	#	dir.	hgt.	remarks	loc.
0610	Observations	begin				
0614	WT	1	N		dark phase	
0641	DR Petrel	1	SW		dark rump on this bird and some white on sides of neck but no more than that on the "white" rumped dark rumped petrel seen yesterday	
0703	DR Petrel?	1	S		Not seen well; large Pterodroma certainly C probably D.R.	
0704	?	1	S		" " C	
0727	WT	1	S		DR phase	
	DR Petrel	1	S			
	WN Petrel	1	S			
0810	Shear-Petrel	1	E			
0811	Wedgetail	1	NW			
0816	Wedgetail	1	SW			
0821	DR P.	2	SW			
0845	Shear-Petrel	1	SE			
0950	Wedgetail	1	W		Flight distinctly different (calmer) under calmer weather conditions. Flight is generally more leisurely and the body axis remains near the ^{ventral} horizontal move of the time	B+
1002	Bulwers	1	NE		Smaller than WT - all brown above + below; light "noddy" pattern noticeable on wings. Flight somewhat more rapid than WT just seen but generally similar. How would a big Pterodroma fly in a calm sea. A -	
1028	Shear-Petrel	1	NE		Glimpsed once but briefly	
1028	WN Petrel	1	S		Face and head very light; back a light gray-black with rump not distinguishably different in color. Some white extending up sides of throat. WN on basis of this and very light impressive given by head neck area	
1029	Sh. Petrel	1	SW		- Possibly same as above bird	
1040	Golden Plover	1	S		- A - Didn't circle ship but finally left heady in the vector between S and SE	
1045	RTTB	1			A	
1054	Petrel				1045 - Plover back again	
1054	WN Petrel	1	S		For gray for wedgetail B+ neck patches obvious - decidedly gray-black rump patch not noted	



DATE 4 Sept 64
Pg. # 2

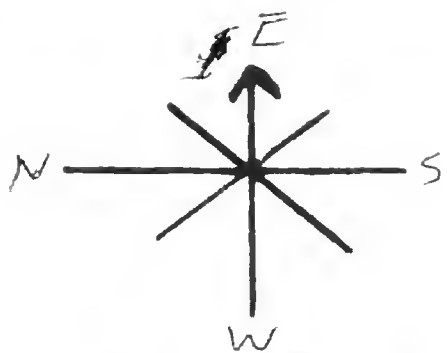
time	species	#	dir.	hgt.	remarks	loc.
1145	WNP	1	SW		This bird definitely had a white rump.	
1155	Bonin Is P	1	S			
1200	Sooty Tern	2	E		Very low to water compared to other Sooty Terns I have seen	
1240	WNP	1	NW		Seen briefly - but at fairly close range - Back grey black; whitish impression of head and best look at rump which was was whitish with a darker median area  B ⁺	
1315	DRP	1	NE		Neck appeared concolor with head and back despite what I thought were extensions of neck patches. These were not that predominant. The bird possessed a whitish rump and was clear white underneath. (No noticeable wing margin) B ⁺	
1404	Wedge Tail	2	S		1 dark 1 light	
1430	Bulwer's P	1	SW			
1423	Shear-Petrel	2	S			
1424	DRP	1				
1458	Wedge Tail	2	W			
1506	Wedge Tail	1	S			
1508	Shear-Petrel	1	NE			
1517	Wedge Tail	1	SE			
1530	Shear Petrel	1	NE		Seen by watch	
1603	DRP	1			Initially sitting on water. (Vide Ternite) Not seen by me (RBE)	
1607	CI Sh.	2	NW		Seen very well - Flight the "typical" horizontal flap-flap-flap soar. Color chunkiness all night - A ⁺	
1610					Small school (SO ⁺ ?) of small dolphins seen swimming ESE - Not seen well	
1713	WNP	2	NW		seen over small school of skipjack? tuna -	
	Sooty Tern	2	NE			
1715	Pt-sp	2	SE		Cookilaria group - Dark head, top of wings, and back dark, underwings ^{dark with varying white} and ^{light} breast ^{and} under tail ^{white} plum about like a Bonin Is P, about the same size	

122629



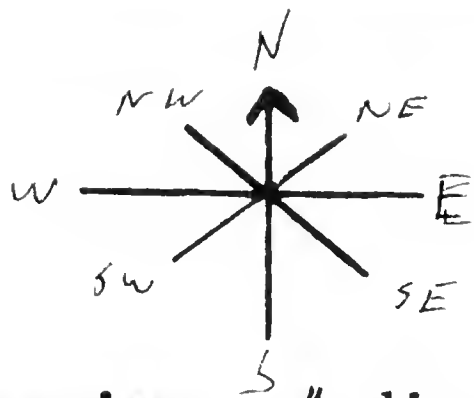
DATE 4 Sep
Pg. # 3

	time	species	#	dir.	hgt.	remarks	loc.
P. ex	1732	Petrel sp X	1	S			
P. ex	1805	w. n. p.	1	SW			
P. ex	1807	Petrel sp X	1	SE			
P. ex	1815	Petrel sp X	1	SE			
P. ex	1819	Wedgetail	1	SW		light	
P. ex	1823	Petrel sp X	1	SW			
P. ex	1829	w. n. p.	1	S			
P. ex	1831	Christmas Is S	1	SW			
P. ex	1833	Petrel sp X	1				
P. ex	1850	E end O observations					



DATE 5-sept-64
Pg. # 1

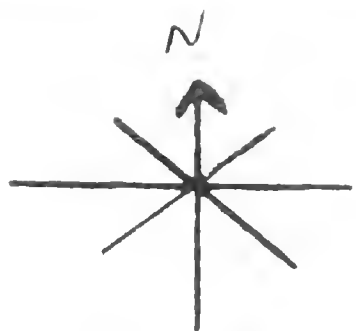
time	species	#	dir.	hgt.	remarks	loc.
0550	Bird sp	1	S			
0558	Shear-Petrel	1	S			
✓ 0610	Petrel sp	1	SE			
0635	Shear-Petrel	1	NE			
0642	WNP	1	S			
0656	Wedge-tail	2	E			
0658	Wedge-tail	1	W		Dark	
0706	Wedge-tail	1	W		Dark	
0707	Wedge-tail	1	S			
✓ 0709	Petrel sp X	1	E		seen by watch	
0725	Shear-Petrel	1	SE			
✓ 0900	Pterodroma sp	1	S		large - externa or phaeopygia	
0918	DRP	1	S		vide Termite (says is saw no white neck -)	
0925	Bird sp	1	S		At limits of visibility - apparent only as a black dot. Flew low over water and thus (from estimated size) is probably a <u>Puffinus</u>	
0934	WNP	1	SW		(WT) or <u>Pterodroma</u>	
0940	Shear-Petrel	1	NE		dark!	
0941	Wedge-tail	1	NE			
✓ 0944	Petrel sp X	2	NE			
0945	DRP	1	NE			
(0950)	Shear-Petrel	1	W			
0951	DRP	1	SE			
0954	Wedge-tail	2	NW			
✓ 0956	Petrel sp X	2	NE			
0959	Bulwer's P	2	NE			
1000	DRP	2	NW			
1006	Shear-Petrel	1	NW		seen by watch	
1007	Shear-Petrel	1				
✓ 1015	Petrel sp X	2	NE			
✓ 1121	Pterodroma sp	1	NE		Smaller than externa phaeopygia Cookiana? B	
1132	Term sp	1	S		Definite tern gull flight - Termite very B + sure it was a jaeger!?	
1133	DRP	1	S		Definite light rump, no pronounced patches on side on neck; napeculum with both B +	
1134	C.I. Sh.	1	S		A	
1245	Wedge-tail	1	N			
1250	Bonin Is P	1	S		sitting on water	
1315	Bonin Is P	1	NW			



DATE 5 Sept 64
Pg. # 2

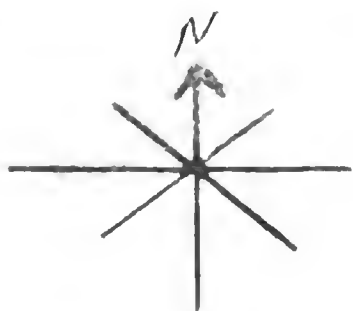
time	species	#	dir.	hgt.	remarks	loc.
1409	WT	2	N		} dark phase	
1459	WT	1	N			
1554	WNP	1	W			
1559	Bonin Is P	1	E		Long ways off.	
✓ 1615	Patrol sp	1	E			
1655	WNP	2	SE			
1718	WNP	2	NE			
1738	WNP	1	E		A	
1835	- Observations concluded					
Total birds						52
Total sightings						42

✓



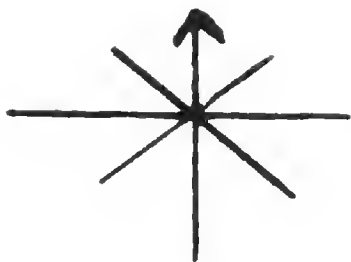
DATE Sept 6
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Observations	begun	—			
0615	Sh. petrel sp	1	NW			
0628	WT	1	NE			
0630	DRP	1	S			
0655	WNP	1	S			
0656	Sooty Sh.	1	S		Flew somewhat reminiscent of Christmas Island - Dark above; dark below with silvery underings flashing when they caught the sun.	
0705	Sh. Petrel sp	1	S			
0708	WNP	1	N			
0716	WNP	1	S			
0722	Sh. Pet. sp	1	S			
0745	Sooty Tern	6	SE		apparently not feeding (Travelling)	
0745	WT	3				
0746	Pet. sp	1	—			
0757	Newell's	1	SE		Black back, tail patch evident, very white underneath - Unusual flight. I did not know what this was never having seen one before but Termite assured me it was a Newell's and finally it crossed close across the bow and I got a good look at it.	
0803	DRP	1	W			
0804	Bonin Is P	2	W			
0805	DRP	3	SW			
0806	Sh. Petrel sp	1	W			
0810	WNP	1	W			
0811	Petrel sp.	2	SW		They are either DRP or WNP	
0817	WNP?	1	SW			
0821	DRP	2	SW			
0823	Petrel sp.	1	SW			
0837	Hemastur P	1	SW			
0844	Bonin Is P	1	SW			
0845	Shear-Petrel	1	S		Seen by watch	
0846	DRP	1	W			
0903	Shear-Petrel	1	SW		Seen by watch	
0906	DRP	1	SW		Sitting in water	
0907	DRP	1	E			



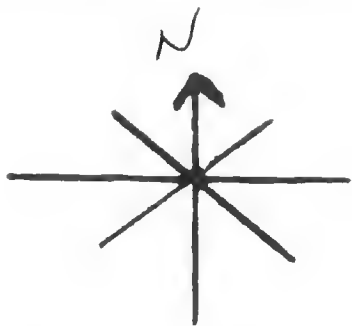
DATE 6 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
JFP	0909	Shear-Petrel	1	SW			
	0914	DRP Shear-Petrel	2 1	W W		all dark, stayed low to water, wasn't a WT	
	0916	Shear-Petrel	1	W		seen by water	
JFP	0921	WNP	1	SW			
	0930	Sooty Tern	4	W			
	0931	Shear-Petrel	1	W		all dark, about size of a WT, flew like a DRP, no white under wings	
BAP	(1041)	Petrel sp. x	1			The small <u>Pterodroma</u> petrel of southern waters normally listed as B.I. Petrel. but to conform with Husted here listed as Petrel x.	
	1047	Petrel-shear sp	1	SE		Dark	
	1104	Wedgetail	1	E			
	1113	Shear-Petrel	1	NE			
JFP	1116	DRP	1	NE			
	1132	Frigate	1	W			
	1142	Shear-Petrel	1	E		Seen by water	
JFP	1154	DRP	1	E			
BLP	1201	Bonin P	1	S			
	1202	Shear-Petrel	1	S			
	1216	Shear-Petrel	2	W		All dark, flew like a petrel with high arcs and turning on its side frequently. No white was visible. Wings beats beats were infrequent. Might be SS, but I doubt it.	
JFP	1234	DRP	1	SE		light phase	
	1235	WT	1	N			
	1244	RTTB	1	NW			
2 JFP	1356	Sooty Tern	100	±20		Feeding	
		Wedgetail	20	±10			
		Frigate	1				
		Shear-Petrel	20	±10			
		DRP	20	±5			
	(1450)	Wedgetail	1	SW		Dark	
JFP	1459	DRP	1	S			
210	1512	DRP	1	SW			



DATE 6 Sept
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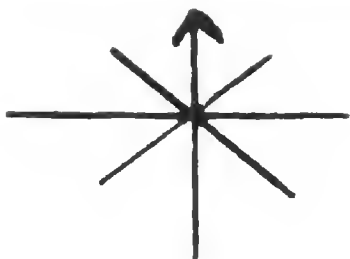
time	species	#	dir.	hgt.	remarks	loc.
1548	TB sp.	1			near hazy	
1600	Shearwater sp	1			" "	
1613	" "	1	NE		" "	
1623	Petrel sp	1	W		Darwin. This just might have been a light phase Kermadec but I just didn't get that good a look.	
1634	Bird sp	1	S		Seen by bow but not by me RRC	
1635	W.N. Petrel "Cook" Petrel	1	SE			
1655	Sooty Tern	100			Feeding flock. This flock was very interesting in that of the some 20 petre procellariids identified with it I was unable to spot a single WT. Of the 5 petrels I saw well and at close range 4 were decidedly w.b. while the fifth may have been dark-rump. I suspect though that it was probably one form or another of the white-neck - Dayle notes that some of the sooty terns were immature. Dark phase	
	W.N. Petrel	20		10 10		
	Shearwater sp	5				
	Enigate	2				
1709	Golden Plover	1				
1712	WT	1				
1715	WT	2				
1817	DRP	1				
1840	End observations					



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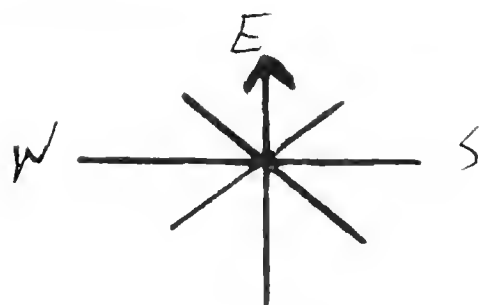
time	species	#	dir.	hgt.	remarks	loc.
0550	Begin Observations					
0759	Wedge-tail	1				
0802	Shear-Petrel	1				
0820	Petrel sp	1	N		large Pterodroma - At too great a distance	
0824	" " "	1	N		to distinguish whether DR or WAN	
0825	Shearwater sp	1	S		" " LI	
0859	"Cook" Petrel	1	N		Sooty? or Bonin?	
0910	Shear-Petrel	1	W			
0940	Frigate	1	N			
0942	DRP	1	N			
0941	Sooty Tern	1	E			
0944	Sooty Tern	5	± N		Travelling	
0945	DRP	1	W			
1007	DRP	1	W			
1025	Sooty Tern	10	W			
	Fairy Tern	1			Feeding	
	DRP	5				
	Shear-Petrel	5	± 2			
1056	DRP	1	NW			
1142	Shear-Petrel	1				
1159	WNP	1	N			
1431	Shear-Petrel	1				
1447	DRP	1	S			
1448	Shear-Petrel	1	S			
1552	DRP	2	NE			
1604	DRP	1	S			
1610	Shear-Petrel	1	S		all dark, short size of DRP, flew more like a petrel	
1720	" "	1	S		(Possibly WT)	
1840	- observation concluded					

Chen



DATE Sept. 8
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0555	- Observations				begin	
0613	Sh-petrel	1	SE			
0624	Sooty Shw.	1	NE			
0636	WTTB	1	E		Obs	
0703	WT	1	S		light phase	
0716	WTTB	1	E		Same as 636? on hydro-station the whole time -	
0749	Sooty Sh	1	S			
1015	DRP	1	E			
1034	Shear-Petrel	1	E			
1115	Sooty Tern	20	±2 NW		Fueling	
	DRP	8	±2			
	Shear-Petrel	25	±3			
	Frigate	1				
1125	DRP	1	S			
1247	WTTB	1	E			
1249	DRP	1	SW			
1301	Shear-Petrel	1	E			
1454	DRP	1	W			
1700	? Skua?	1			large with good wingspread. light-brown all over. flying high tropic bird ht. Not shearwater Tennie thought it was a skua - This on a jaeger but looked large for a jaeger - Rapid flight like tern but much too large for any tern in this area. Flight did not appear especially gull-like - Ternites. Identification may well be correct.	
1850	E not Observations					



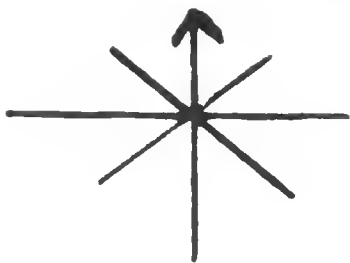
DATE 9 Sept 61
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0545	Bonin Shearwater Observations					
0641	Shear-Petrel	1	E			
0836	Wedgetail	1	E			
0729	DRP	1	SE			
0805	Sooty Shear	1	W			
0825	WTP	1			DP	
1521	DRP	23 ±			Somewhat doubtful if this was a flock; if so at least they were not feeding. The first two birds seen (DRP) were sitting on the water. At least 1 WNP was seen well and although other petrels seen well (of some 10 were DRP it seems likely that several more were WNP.)	
	WNP	53 ±				
	Frigate	1				
1636	DRP	6	W		Feeding	
	Bonin Is P	2				
	Wedgetail	4				
1704	Kermadec Petrel	1	W			
1711	Wedgetail	1	N			
1715	Wedgetail	1	W			
1716	DRP	1	SE			
1835	Observed	included				

S
↑
E + W
N, {

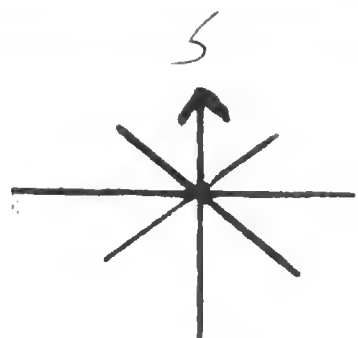
151-
8.2 {

considered
"feeding"




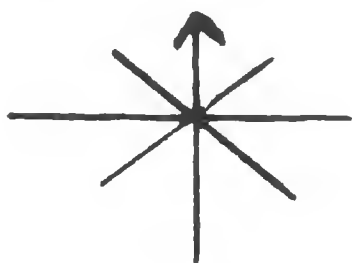
DATE Sept 10
Pg. # pg. 1

time	species	#	dir.	hgt.	remarks	loc.
0606	Observer's	1	Drayn			
0633	WT	2	NE			
0653	WT	1	S			
0807	DAP	2	E			
0934	WNP	1	NW			
1054	WNP	1	S			
	Petrel sp	1	S			
1108	DAP	1	SW			
	WNP	1	SW			
1434	DAP	1	SE			
1616	Sh.-petrel sp	2	S			
1651	" "	1	N			
1830	End Observations					



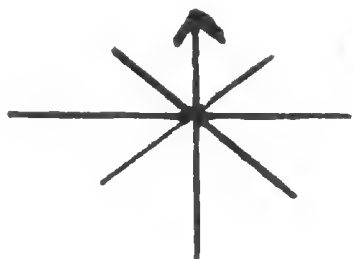
DATE 11 Sept 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0650	Bonin Obovate	1				
0725	Shear-Petrel	2	E		in the sun, but they were probably w.i.	
0810	DRP	1	S			
0819	"Cook" Petrels	2	S		Small Pterodroma not seen too well but apparently lacking black slash under wing characteristic of Bonin - Underwing apparently all whitish without black rim.	
1008	Sooty Terns	60	±10 E		Feeding	
	Wedgetails	15	±5			
	DRP	30	±5			
	Sooty Shear-Petrel	20	±5			
	Frigate	2				
1035	Bonin Is P	1	S			
1109	" " " "	1	N		Possessed prominent black wing slash margins but slash not noted.	
1113	DRP	1	S			
1142	DRP	1	N			
1220	Shear-petrel sp	1	N			
1238	Sooty Tern	1	N			
	DRP	1	W			
1335	Shear-Petrel	1	W			
1345	Sooty Tern	20	E		Feeding	
	DRP	10	±2			
	Wedgetail	2				
	Shear-Petrel	7	±3			
1355	DRP	1	W			
1410	Petrel-Shearer sp	1	N		Brown above, with underwings brown with white towards tips of underwing. White slash  on top of wings - A partial albino. Kermadec? White belly throat not observed - Flight rather slow and leisurely -	
1555	Bonin Is P	1	SE			
1732	DRP	1	SE			
1713	WNP	1	S			
1720	Sooty Tern	25	N		Feeding	
	Wedgetail	10	±			
	DRP	10	±			
	Shear-Petrel	10	±			
1737	DRP	2	S			
1742	DRP	1	N			
1850	Observed cancelled					



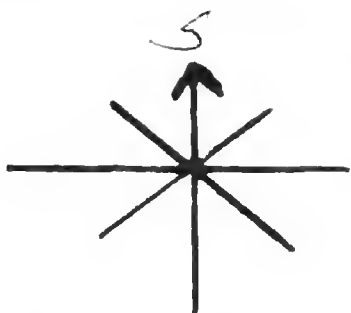
DATE Sept 12
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
		Observations beginning					
	0605					(4 DR, 4 WNP - rest petrel shearwaters - Terns!)	
	0606-0610	Shear-petrel	15			Occurring in singles - Awake about 5 minutes later	
	0615	Shear-petrel sp	1	N		(Should count as 15 sightings) (1 shorebird)	
	0619	WNP	1	N			
1	0625	WNP	25	N		Not feeding all dark with white flash on primaries	
		DRP	10	N			
		Kermadec P	1	N			
	0626	Petrel Sh	1	N			
	0631	DRP	1	N			
	0632	WNP	1	N			
	0633	DRP	1	N			
	0636	Storm-petrel H sp	1	E		white-rumped - shearwaters	
	0638	WNP	1	N			
2	0639	Petrel-Sh -	30 ±			circling - apparently not feeding? Prob.	
	0642	WNP	1	NE		DRP + WNP	
	0643	WNP	1	WE			
	0647	WNP	1	N			
	0648	DRP	1	N			
	0650	WNP	1	N			
	0654	"Cook Petrel"	1	N			
	0655	Petrel-Sh	1	NE			
	0655	DRP	1	N			
	0703	Petrel-Shear	5	NE		Count as 5 sightings not a flock	
3	0705	Harlequin S Pet	46	NE 1 NW 3		white rump patch appeared broad across base of tail (not incipiently divided as in Leach's) Travelling	
	0706	Kermadec?	1	N			
	0707	DRP	1	N			
	0713	WNP	1	N			
	0714	DRP	1	N			
	0715	WNP	1	N			
	0718	Petrel-Shear	3	N		(DRP + WNP)	
	0719	Storm Petrel H sp	2	WC			
	0720	Petrel-Shear	4	N			
4	0740	Petrel-Shear	95 ±	W		Probably Pterodroma and WT - Circling but not seen hitting ocean surface Feeding?	
		Sooty Tern	5 ±	S			
	0742	Petrel Shear	2	N			
	0743	WNP	1				



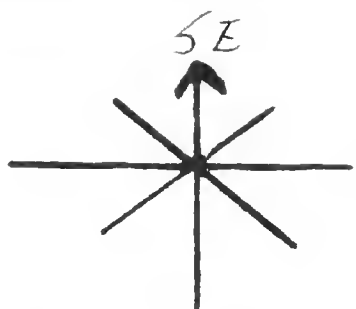
time species # dir. hgt. remarks loc.

0749	WNP	1	E			
0750	Newell's S	1	SE			
0754	Kermadec WNP	1	W+			white belly - seen very well travelling
	DRP	6	S			
	Sooty Tern	4				
		6				
0800	Petrel. Sh	3				
0809	DRP	4	⊙			Not a flock.
	WNP	3	⊙			
0811	Sooty Tern	5	S			Travelling
	Wedgetail	3				
	DRP	4				
	WNP	1				
0816	Wedgetail	1	SW			
	DRP	3				
0818	Shear-Petrel	1	E			
0827	WNP	1	W			Dark
0832	Wedgetail	1	W			
	WNP	1				
	DRP	2				
0837	DRP	1	SW			
0840	DRP	1	SE			
0845	Wedgetail	1	E			
0848	DRP	1	E			
0849	WNP	1	⊙			
0852	Bonin's P	1	E			
0900	WNP	2	SW			
0924	DRP	1	SE			
0927	Wedgetail	1	N			Dark
0931	DRP	1	E			
0941	WNP	1	E			
0943	DRP	1	S			
0955	Shear-Petrel	3	—			Two Fish balls picked up - One normal, the other an orange plastic manstrosity
10:03	" "	1	N			



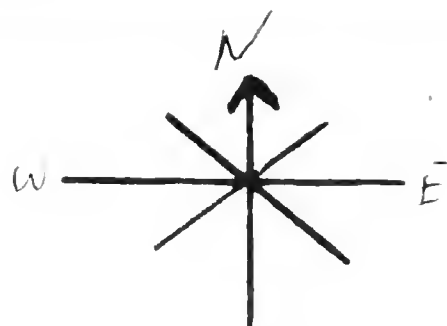
DATE Sept. 12
Pg. # 3

	time	species	#	dir.	hgt.	remarks	loc.
	1006	DRP	1	E			
7 {	1010	DRP	5			Flying southwest in a compact string of five - Pecked off one by one from rearmost bird and headed northwesterly. Picked up another fish ball.	Travelling
	1016	Sh. Petrel	1	SE			
	1022	" "	1	NE			
	1034	DRP	1	E			
	1041	Harlequin	2	SW		White rumps but not seen well enough to note if anterior surface was impinged with gray-brown - Not seen by me (R.B.)	
	1055	Bird sp	1				
	1155	Shear-Petrel	2	SE			
SE ↑	1217	Shear-Petrel	1	NE		Seen by watch	
	1237	" "	1	NW			
8 {	1243	Sooty Tern	6	S		Travelling	
	1253	Shear Petrel	1	W			
9 {	1257	" "	50 ± S?			Right at the limits of visibility - Feeding	
	1312	DRP	2	SE			
	1319	Shear-Petrel	1	NE			
	1320	DRP	1	NE			
	1354	Harlequin	1	SE			
	1409	Harlequin storm P.	1	SE			
10 {	1416	Sooty Tern	5	NE		Feeding	
		Wedgetail	2				
		DRP	5				
	1427	Sooty Tern	1	E			
	1434	WNP	2	NE			
11 {	1442	Sooty Tern	5	SE		4 dark Feeding	
		Wedgetail	8				
		DRP	3				
	1449	DRP	1	S			
	1450	Shear-Petrel	1	SE			
	1455	WNP	1	NW			
	1458	DRP	1	N			
	1500	DRP	7	S		Nata flock	
		WNP	4				
	1507	Sooty Tern	1	SE			
	1512	JRP	3	SW			
		WNP	1				



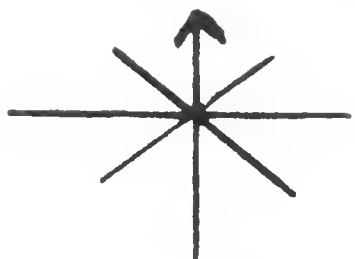
DATE 12 Sept 64
Pg. # 4

	time	species	#	dir.	hgt.	remarks	loc.
	1514	Wedgetail	1	SE			
12	1521	WNP	1	S			
	1524	Bonin Is P	1	S			
		DRP	3				
	1526	Bonin Is P	1	SE			
	1531	WT	2	SE		dark } sitting on water with white slashes symmetrically on several of the outer primaries - Feeding	
		DRP	5	S			
		WNP	1	S			
	1545	DRP	1	S			
	1547	Sh-petrel	1	SE			
13	1552	Sooty Tern	9	SE		— travelling	
	1553	DRP	2	S			
	1600	Pomarine Jaeger	1	SW		This came close and was observed closely by me (and Termite) It fit the description in Peterson to a T. It possessed the same overall color pattern, the barred rump, and the small slightly pointed central tail feathers. I have seen Pomarine Jaegers before and this bird appeared definitely smaller. It was light below and duskier toward the chest but barring of the underparts was not especially noticeable. Returned at 1615 and circled behind the ship. At one point it circled above a large Pterodroma, turned and dove it into the water. Chase was not pursued -	
	1602	Sh. Petrel	2				
	1608	Petrel sp	3				
	1610	Harcourt SP.	2				
	1612	Petrel sp	1	SE			
14	1625	Sooty Tern	75	SE		— feeding - About a third of the Sooties were immature. - Feeding on Skipjack -	
		DRP	35	SE			
		WNP	15	SE			
		WT	12	SE		dark	
	1659	Bonin Petrel	1	SE			
	1704	Petrel Shrike	1	N			
	1706	Sooty Tern	3	N			
	1708	Harcourt	1	N			
	1716	Petrel-Sh.	1	W			
	1730	Wedgetail	1	SW			
	1735	DRP	3	SE			
	1740	DRP	2	SE			
15	1743	Sooty Tern	4	SE		Travelling	
		Shore Petrel	2	SW			



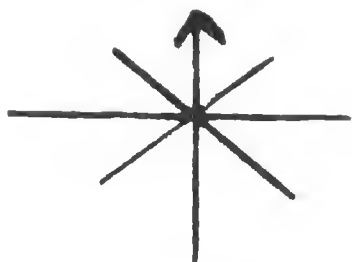
DATE 13 Sept 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0535	B. begin observations					
0602	Shear-Petrel	1	NE			
0630	Wedgetail	1	NW		Dark	
0704	DRP?	1	W			
0708	DRP	2	NW			
0710	Shear-Petrel	1	W		about the size of a DRP, flew like DRP, but had entirely brown underwings, white underparts and dark upperparts	
0716	Wedgetail	2	E			
0717	DRP	1	W			
0718	Wedgetail	1	E		Dark	
0812	Bonin Is	1	NW			
0821	DRP	1	W			
0852	WNP	1	S			
0914	Petrel sp	1	W			
0921	DRP	1	NW			
0926	Pet-Sp sp	1	ES			
0932	DRP	1	W			
0942	Thraupis sp	1	SW			
0944	DRP	1	N			
0958	DRP	1	W			
0959	Wedgetail	1	W		Dark	
1035	Shear-Petrel	1	E			
1038	Sooty Tern	2	W			
1042	DRP	1	NW			
1045	Wedgetail	1	NW		Dark	
1055	Wedgetail	1	N		Dark	
1057	Bonin Is P	1	W			
1119	Bonin Petrel	1	W			
1134	DRP	1	W			
1148	Bonin Petrel	1	S			
1217	" "	1	E			
1224	Sh. Pet. sp	1	S			
1225	Shear-Petrel	1	NW			
1254	Bonin Is P	1	W			
1306	DRP	1	W			
1310	Thraupis	1	NW			
1350	Shear-Petrel	2	W			



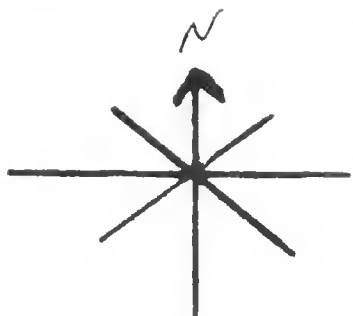
DATE Sept. 13
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1412	Sh. petrel	1	S			
1415	Bonin Is.	1	N			
1515	WT	1	NE		Dark	
1631	wedgetail	1	W			
1636	DRP	1	E			
1650	DRP	1	E			
1732	Petrel sp	1	N			
1755	WT	1	S		Dark	
1815	Observations concluded				-	



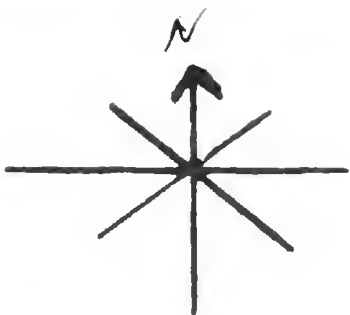
DATE 14 Sept
Pg. # Pg. 1

	time	species	#	dir.	hgt.	remarks	loc.
	0535					Observations begun —	
PWP	0540	RT Petrel	1	S			
	0600	Sh. Petrel	1	S			
	0639	Sh. Petrel	1	S			
	0646	Kermadec P.	1	N		light phase	
	0647	Sh. Petrel	1	W			
	0658	Leach's Harcourt's	1	N			
PWP	0701	WNP	2	S+W			
	0705	Petrel sp	2	N			
PWP	0705	Bonin Is.	1	N			
JWP	0710	DRP	1	SW			
JWP	0725	Bonin Is.	2	N			
	0726	Petrel sp	2	"			
1 {	0749	Sh. - Petrel	5±			at long range Travelling	
PWP	0750	Bonin Is.	1	N			
JWP	0751	DRP	1	NW			
	0755	Newell's	1	NW			
	0805	WNP	1	NW		Head was almost entirely white.	
JWP	0810	DRP	1	NW			
	0813	Kermadec P.	1	W		Dark.	
	0835	RT, Tropicbird	2	E			
PWP	0933	WNP	1	NE			
JWP	0946	DRP	1	N			
	0946	Sh. Petrel	1	N			
JWP	0957	DRP	46	S		These birds were seen actively pursuing a large school of small flying fish. At first only two birds were present but presently larger numbers appeared. Several appeared to strike at flying fish at the surface of the water, almost alighting temporarily and then regaining flight.	
PWP		WNP	1				
	1003	WT (light)	1				
PWP	1007	Bonin Is.	1	N			
	10:30	Sh. Petrel	1				
JWP	10:47	DRP	1	E			
JWP	1111	Bonin Is. P.	1	W			
	1125	Sooty Tern	5	W			Fedling
JWP		DRP	4				
		WNP	3				
		WT Tropicbird	1				
		Sh. - Petrel	5				
JWP	1134	DRP	1	E			



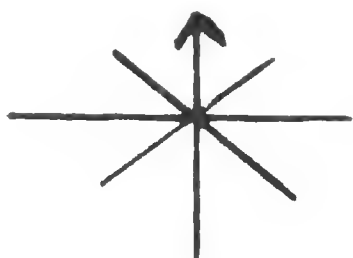
DATE 14 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
JEP	1145	DRP	1	W			
JEP	1154	Bonin Is P	2	SE			
JEP	1155	Bonin Is P	1	NW			
	1159	Sooty Shear	1	W			
	1208	Shear-Petrel	1	SW		Seen by watch	
JEP	1215	WNP	2	N			
4 {	1217	Sooty Tern	6	NE		Feeding	
		DRP	1				
JEP	1220	DRP	1	E			
JEP	1221	WNP	1	W			
JEP	1222	DRP	1	N			
5 {	1224	Sooty Tern	15	E		Feeding	
		Shear-Petrel	5	W			
	1225	Sooty Shear	1	W			
	1234	Sh-Petrel	1	W			
JEP	1247	DRP	1	S			
	1255	Sh-Petrel	1	S			
JEP	1256	DRP	2	S			
JEP	1343	DRP	1	N			
	1400	Shear-Petrel	1	NE		about the size of a DRP, but with brown underwings	
JEP	1405	DRP	1	N			
	1432	Wedgetail	1	W		Park	
	1455	Shear-Petrel	1	W			
JEP	1500	DRP	1	W			
JEP	1501	WNP	1	NE			
JEP	1505	Bonin Is P	1	W			
	1600	Sh-Petrel	1				
JEP	1602	WNP	1	W			
JEP	1617	DRP	1	W			
	1619	Sh-Petrel sp	1				
JEP	1715	Bonin Is P	1	NW			
6 {	1720	DRP	4	E		Traveling	
		WNP	2				
		Wedgetail	3				
		Bonin Is P	1				
JEP	1723	DRP	1	W			
7 {	1738	Sooty Tern	40	E		Feeding	
		DRP	33	E			
		WNP	15	E			
		Shear Petrel	35	E			
		Wedgetail	10	E			
						1820 End observation	



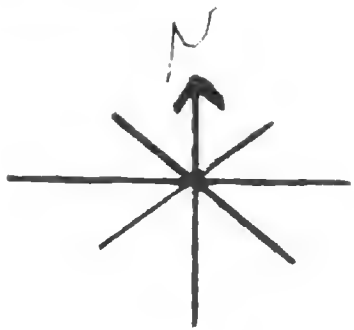
DATE 15 Sept 64
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0535	Begin Observations					
	0535						
	0542	Wedgetail	1	S			
JFP	0557	DRP	1	NW			
JFP	0638	DRP	1	W			
JFP	0640	DRP	1	W			
	0642	Sh. Petrel - Petrel	1	NW			
	0654	Bonin Is P	1	NW			
	0704	Sh. Petrel	1	NW			
JFP	0714	DRP	3	W			
{	0718	DRP	4	NE			
		WNP	1			Feeding	
		Wedgetail	2			1 dark	
	0750	Sh. Petrel	1	NE			
JFP	0755	DRP	1	N			
JFP	0759	DRP	1	NW			
	0829	Sooty Shrike	1	S			
	0835	RTTB	1	SE			
	0836	Sooty Tern	3	E			
	0844	Sh. Petrel	2	S			
	0857	" "	1	S		All dark some light on underwings Sooty Sh? Not seen well.	
	0910	Sooty Sh.	1	S			
	0924	Sh. Petrel sp	1	E			
	0949	Bonin Is P	1	W			
	1000	RT. Tropicbird	1	W		Sitting in water	
	1002	DRP	1	NW			
	1015	DRP	1	W			
	1019	DRP	1	SW			
	1022	Wedgetail	1	NE		Dark	
	1024	DRP	2	SW			
		Wedgetail	2			Sitting in water	
	1026	DRP	1	NW			
	1030	Sh. Petrel	1	E			
	1031	Sh. Petrel	1	NW		seen by water	
RTTB	1032	RT Tropicbird	1	E			
	1030	DRP	1	W			
	1055	DRP	1	N			



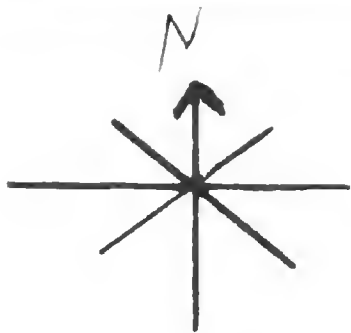
DATE Sept. 15
Pg. # pg. 2

time	species	#	dir.	hgt.	remarks	loc.
1110	Sh. - Petrel	1	SW			
1200	Kermadec?	1	S		dark	
1201	Sh. Petrel	1	S			
1202	RTTB	2	ES		One sitting on water	
1213	Bonin Is	1	S			
1228	RT Tropicbird	1	W			
1232	Sooty S shear Pet	1	W		all dark sooty shear? - couldn't see silver line on underwing does not fly like one.	
1311	wedge tail	1	NW			
1319	Bonin Is P.	1	W			
1410	Shear Pet	1	E			
1545	Shear - Petrel	1	E			
1617	Bonin Is P.	1	E			
1623	Bonin Is P.	1	NE			
1624	Wedge tail	1	SE			
1625	Shear - Petrel S P	1	SW			
1630	Kermadec P	1	SE			
1633	DRP	1	NE			
1635	Shear - Petrel	1	NE			
1650	Shear - Petrel	1	W		all dark, flies like a DRP, about same size, may be lighter brown underwing	
1655	RT Tropicbird	1	S			
1700	Shear - Petrel	1	W			
1705	Shear Petrel	1	W		all dark	
	DRP	1				
1726	Shear - Petrel	1	E			
1755	" "	1	S			
1815	Observation concluded					



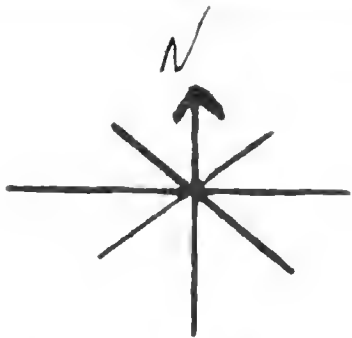
DATE Sept. 16
Pg. # pg. 1

time	species	#	dir.	hgt.	remarks	loc.
0535	<i>B. squarulus</i>					
0537	Bonin Petrel*	1	S		* type	
0617	Sh. Petrel	1	NE			
0618	" "	1	S		Every damn one of these SP went by	
0620	" "	1			at some distance on the starboard	
0621	" "	1	SE		side <u>in the sun</u> - At least three species	
0625	" "	2	S		From flight several may have been Sooty	
0633	" "	1	S		Shearwater.	
0639	DRP	1	S			
0640	Sh. Petrel	1	E			
0641	" "	1				
0650	WT	1	NE		light	
0707	Sh. Petrel	1	S			
0709	Sooty Shearwater	1	S			
0734	Sh. Petrel	1	S		Finally a bird on the port side -	
0742	Sh. Petrel	1	S		{ seen by watch while I was doing weather	
0747	" "	1	S			
0751	Bonin Petrel*	1	E			
0800	Golden Plover	1	S			
0809	DRP	1	E			
0810	Sooty Shear?	1	S			
0812	R.T. Tropicbird	1	S			
0814	DRP	1	W			
0817	Shear-Petrel	2	S		all dark, flew like a DRP	
0841	DRP	1	S			
0842	Wedgetail	1	E			
0844	DRP	1	SE			
0845	Shear-Petrel	2	NE			
0902	Sooty Shear	1	N			
0908	DRP	4	NW		Feeding	
	Sooty Tern	4				
	R.T.T.B.	1				
	Shear-Petrel	3				
0915	Harlequin ST	1	W			
0917	DRP	1	S			
0926	Bonin's P	1	E			
0930	Sooty Sooty Shear	1	S			
0945	DRP	1	S			
0956	Sooty Sh	1	S			
0956	Petrel Sh. sp	2	S			



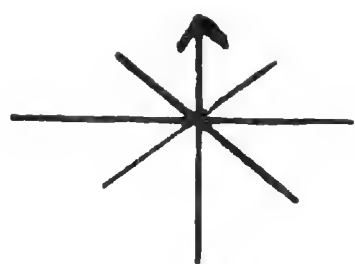
DATE Sept. 16
Pg. # pg. 2

time	species	#	dir.	hgt.	remarks	loc.
10:00	Sooty Shear.	3	S	✓	Moving rapidly	
10:03	RTTB	1	N		low over water	
10:23	Sh. Petrel sp	1	SE			
10:25	DRP	1	SE			
10:40	Sooty Shear	1	S	✓		
10:51	DRP	1	N		with a light rump	
11:53	DRP	1	E		sitting on water	
11:56	Christmas Is?	1	E			
13:15	Shear pet	1	S			
14:05	DRP	1	W			
14:07	Wedgetail	1	SE		Dark	
14:28	Shear-Petrel	1	NW			
14:45	Wedgetail	1	S			
15:01	Shear-Petrel	1	W			
15:16	Wedgetail	1	E		Dark	
15:16	Christmas Is?	1	W			
15:24	Wedgetail	1	E			
15:26	Shear-Petrel	2	NE			
15:30	DRP	1	SW			
15:56	Shear-Petrel	1	S		almost all of these birds appeared to be dark above and below and several showed flashing white underwing coverts and were listed as Sooty Shearwater. None occurred near the ship and almost all were characterized by a very rapid vigorous flight in which individuals occasionally looped high above the horizon.	
16:01	" "	1	S			
16:02	" "	1	S			
16:03	Sooty Shear	1	S	✓		
16:06	Shear-Petrel	1	S			
16:07	Sooty Shear	1	SE	✓		
16:15	Shear-Petrel	1	S			
16:15	" "	2	SE			
16:32	" "	1	NW			
16:37	" "	1	SE			
16:48	Sooty Shear?	1	S			
16:48	Shear-Petrel	3	S			
16:50	DRP	1	E			
16:59	Sooty Shear	1	E	✓		
17:02	Sooty Shear	1	S	✓		
17:06	Shear-Petrel	1	S			
17:45	Shear-Petrel	1	SW			
17:47	Sooty Shear.	1	S	✓		
17:54	DRP	1	NW			
18:15	Fe-nol O Shearwater					



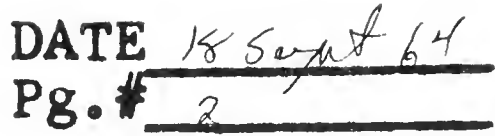
DATE: 7 Sept 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.	
0520	Begin Observations						
0642	Shear. Petrel	1	SW				
0715	Sooty Shear?	1	SE				
0755	Shear-Petrel	1	SW		seen by watch		
0759	Bonin Is P	1	SW				
0805	DRP	1	S				
0807	Sooty Sh.	1	S	✓			
0809	Sh. Petrel	1	S				
0813	" "	1	S		dark bird S.S.?		
0821	WNP	1	E		Beautiful! Most definitive white collar I've yet seen on one of these birds -		
0824	Sh. Petrel	1	E		— dark above below, white underwings? S.S.?		
					Not hardly the typical SS flight though this bird was working its way low over the surface of the water.		
254 215	0831	Sh. Petrel	1	S	— Dark (Not <u>Phaethon</u>)		
	0836	"	2	S	"		
	0915	WTTB	2				
SW ↑ BWP	0935	Sooty Sh.	1	SE	✓		
	1054	Golden Plover	1	S	— Calling		
	1055	Bonin Is P	1	S			
	1315	Sooty Shear	2	S	✓		
	1325	RTTB	2	SW			
	1328	WTTB	1	SW			
	1340	Sooty Shear	1	S	✓		
	1342	Newell's Shear	1	NW			
	1346	Newell's Shear	1	S			
	1447	Petrel-Sh.	1	SE			
	1453	Sooty Sh.	1	S	✓		
	1535	Shear-Petrel	1	SE			
	1713	whale sp	David A. says it is a sperm whale				
	1820	Observations concluded					

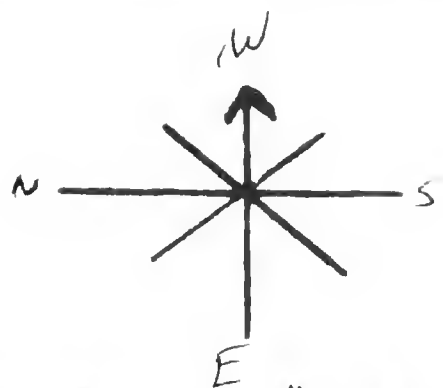


DATE Sept. 18
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0545	Observations	begun				
	0645	Sh. - petrel	1	SE			
	0650	" "	2	S			
	0659	" "	1	S			
	0735	10742	4	Petrel		Sh. seen by Cromwell watch while I was doing weather	
	0747	Sh. petrel	1	E			
BWP	0748	Brown IS	1	S			
	0753	Sh. Petrel	1	—			
	0801	Sh. Petrel	1	S		— Sooty Sh?	
	0806	" "	1	S		Fight as in subs Sh. as described by Doyle	
JFP	0845	DAP	1	S		seen at very long range.	
JFP	0847	DAP	1	W			
	0848	Shear - Petrel	1	W			
	0907	Kermadec P	1	S			
CCN	0909	Brown IS P	1	SW			
	0935	WT	1	NE			
	0957	? Sh. Pet.	1			Dam. fimo - I thought this bird had a dark throat and Suzuki confirmed it. Well marked white belly - underwings not seen that well but lightish (not white like WT) and almost appearing mottled. I could be mistaken on the throat in which case the highest probability is that this bird is a light phase Kermadec.	
	1037	Sh. Pet	1	S		Dark	
	1041	RTTB	1	S		Sitting on water	
	1111	Wedgetail	1	S		Dark	
	1315	Pet. - Sh. sp	1	SE			
	1320	" "	1	NW		DR?	
	1437	Sooty Shear?	1	S			
	1455	Sooty Shear	1	S		✓	
	1500	Sooty Shear	1	S		✓	
	1501	Shear - Petrel	1	NW			
	1520	Shear - Petrel	1	S			
	1524	Murres Shear	1	S			
	1548	RTTB	1	E			
	1553	Shear Petrel	1	S			
	1608	G. Frigate	1	E			
	1635	Shear - petrel	1	S			
	1638	" "	1	S			
	1703	G. Frigate	1	E		Actively diving to surface of water fishing	
	1712	Shear - petrel sp	2	S		{ on horizon	
	1715	" "	1	S			



time	species	#	dir.	hgt.	remarks	loc.
1730	Shear-Petrel	1	S			
1755	Sooty shear?	1	S			
1830	End Observations					



DATE 19 Sept 64
Pg. # 1

time species # dir. hgt. remarks loc.

0540 Begin Observations

0635 WNP 1 S

0642 Newell's 1 S

0649 Newell's 1 S

0655 Newell's 1 S

0700 Newell's 1 S

0709 Sooty Shear 1 S ✓

0713 WNP 1 S

0724 Newell's 1 S

0741 Newell's 1 S

0746 Bonin's P 1 S

0750 Newell's 1 S

0752 Kermadec P 1 S

0855 DRP 2 N

0802 Shear-Petrel 1 N

0806 " " 2 S

0810 " " 2 S

0825 " " 1 S

0829 " " 1 S

0859 Bulwer's P 1 S

0905 Sh. Petrel 1 S

0908 " " 1 W

0910 " " 2 S

0929 " " 1 S

0937 Bonin's P 1 S

0944 RTTB 3 @

1031 Wedgetail 2 @

1207 WT 1 SE

1228 WT 2 E

1245 Bonin's P 2 S

1255 Frigate 1 NW

1307 DRP 1 W

1419 Newell's 1 NW

1433 " 1 NW

1438 Sh. Petrel 1 W

1455 Jaeger sp 1 SW

1509 Newell's 1 NE

1524 Sh. Petrel 1 N

1529 Newell's 1 SE

Benm? } at distance

Newell's?

} light

A
A

Seen well enough to only identify it as a jaeger -
Overall brown color, lighter on rump and with white
flash at base of primaries - Darkness of underparts
and upperparts implies immature form.
Flight as in skua? p. jaeger seen formerly but
less ^{slow} than skua? individual



15,000

~ 750

3.14 x 750 x 750

$$\begin{array}{r} 23 \\ 750 \\ \hline 750 \\ 000 \\ 3750 \\ 5250 \\ \hline 2562500 \\ 3.14 \\ \hline 2'250000 \\ 562500 \\ \hline 1687500 \\ \hline 1,766,250.00 \end{array}$$

$$\begin{array}{r} 117 \\ 3 \overline{) 1,766,000} \\ \underline{15} \\ 26 \\ \underline{15} \\ 116 \\ \underline{105} \\ 11 \end{array}$$

$$\begin{array}{r} 355 \\ 5000 \overline{) 1,766,250} \\ \underline{15000} \\ 26625 \\ \underline{25000} \\ 16250 \end{array}$$

12

144

288

1 bird in 355 miles
cover 288

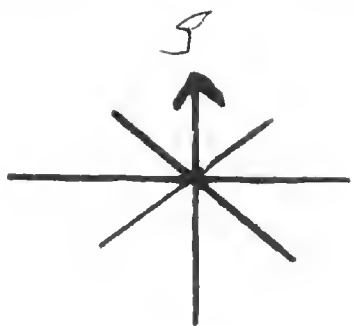
$$\begin{array}{r} 355 \\ 2335 \overline{) 2017} \\ \underline{1775} \\ 242 \\ \underline{230} \\ 12 \end{array}$$

$$\begin{array}{r} 300 \\ 300 \\ \hline 90000 \end{array}$$

$$\begin{array}{r} 4 \\ 57 \\ \hline 6 \\ 342 \end{array}$$

$$\begin{array}{r} 2 \\ 390 \\ \hline 390 \\ 17500 \\ 1050 \\ \hline 122500 \\ 90000 \\ \hline 412500 \end{array}$$

$$\begin{array}{r} 64 \\ 7 \overline{) 412500} \\ \underline{36} \\ 120 \\ \underline{505} \\ 480 \\ \underline{1280} \\ 4500 \end{array}$$



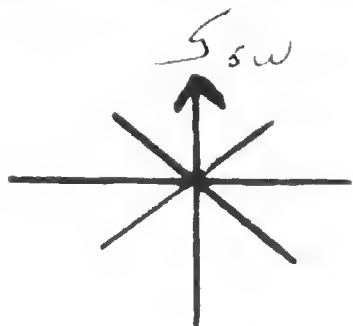
DATE 19 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1530	Murrelets	5	S			
1539	Bonin Is P.	1	W			
1608	Shear-Petrel	1	W			
1615	Sooty Shear	1	S			
1630	Shear-Petrel	1	S			
1639	Wedgetail	1	N			
1640	Wedgetail	1	S			
1641	Wedgetail	1	W			
1642	Bonin Is P.	1	E			
1643	WNP	1	⊙			
1644	Shear-Petrel	1	N			
1648	Shear-Petrel	1	SW			
1650	Sooty Tern	2	W			
1652	Shear-Petrel	1	SW			
1654	Shear-Petrel	1	S			
1656	Shear-Petrel	1	SW			
1700	Wedgetails	2	W			
1704	Wedgetail	⊙	⊙			
1705	Wedgetail	1	W			
1707	Grey sp	3	N			
	Wedgetail	4				
	Sooty Tern	2				
1718	Shear-Petrel	1	SE			
1725	Sooty Sh	1				
1738	WT	2	SE			
1739	WT	1	SE			
1740	Sh.-Petrel sp	1				
1742	WT	2	SE			
1743	WT	1	SE			
1746	Sh. Petrel sp	1	—			
1749	" "	1	—			
1756	" "	1	SE			
1803	" "	1	—			
1805	" "	1	SE			
1808	Sooty Shear	1				
1830	observations continued					

all birds underwing about OAP size. Flw like a wedgetail
dark head and tail arches

returned at 1734 - One of the three turning into
the sun briefly flashed a silhouette of the tail
there was a small but definite rounded projection
from the central tail feathers. Presumably the
other two birds were of the same species. - Dispersing

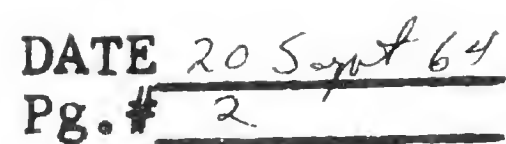
WT ?



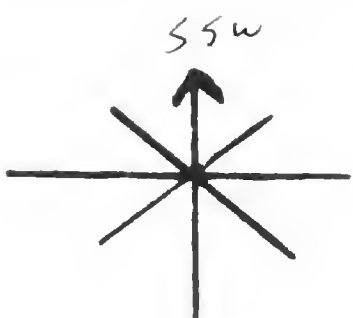
DATE Sept 20
Pg. # pg. 1

	time	species	#	dir.	hgt.	remarks	loc.
	0600	Ouz. citreus	5	begin			
	0600	Sooty Sh	1		✓		
TEP	0613	DRP	1				
	0624	Petrel-Shoal	1	SE			
	0647	WTTB	1	E			
	0649	WT	1				
	0653	Sh. Petrel	3	SE			
	0654	" "	2	SE			
	0659	" "	1	N			
	0700	Sooty Sh	1	S	✓		
	0702	Sh. Petrel	2	S			
BWP	0703	Bonin Petrel	1	SW			
	0705	Sooty Sh	1	S	✓		
	0706	WT	1	S			
2000	0708	Bonin Petrel	1	S			
	0710	WT	1	W			
	0712	Common Noddy	1	N			
	0712	Newells	2	N			
	0713	Sh. Petrel	1	N			
	0714	Sh. Petrel	2	15 IN			
	0716	" "	1	SE			
BWP	0722	Bonin Petrel	1	S			
	0723	RFB	2	N		adult with white plum	
	0724	"	1	N			
	0724	Sh. Petrel sp	1	N			
	0725	" "	1	N			
	0751	Shearwater sp	13			These birds seen during weather in sightings	
	0753	" "	2	SE			
	0751	WT	1	N			
	0758	RFB	1	N			
	0758	WT	1	W			
	0802	RFB	1	SW			
	0803	Wedgetail	2	S			
	0804	Noddy Tern	2	W			
	0805	Wedgetail	1	SW			
	0806	Newells S	1	S			
	0807	Sooty Shear	1	S	✓		
	0808	Wedgetail	1	SW			
	0809	Wedgetail	1	SW			
	0810	RF Booby	2	SW			
	0811	Newells S	1	S			
	1812	Sooty Shear	2	SE	✓		
	1813	Bonin sp	1	SW			
	1814	Sooty Shear	1	S	✓		
	1815	Common Noddy	2	SE			

7/6
500
5000

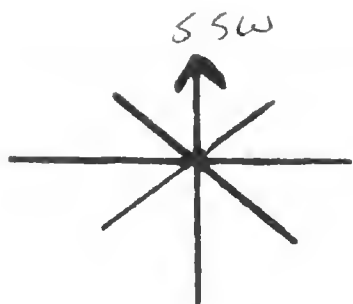


time	species	#	dir.	hgt.	remarks	loc.
0816	Sooty Shear	3	SE	✓		
0817	Sooty Shear	1	SE	✓		
0818	Wedgetail	1	SE		Dark	
0819	Sooty Shear	2	SE	✓		
0820	Wedgetail	1	SW			
0821	RF Booby	1	SW			
0822	Wedgetail	1	SE			
0823	Sooty Shear	1	S	✓		
0824	Wedgetail	3	SW			
0825	Sooty Shear	1	SW	✓		
0826	Sooty Shear	1	SW	✓		
0827	Common Noddy	1	S			
0828	Sooty Shear	1	E	✓		
0829	Bonin Is P	1	SW			
0830	Wedgetail	1	SE			
0831	Sooty Shear	1	SW			
0832	Sooty Tern	1	SW			
0833	Noddy Tern	1	SW			
0834	Wedgetail	2	SW			
0836	Bonin Is P	1	SW			
0837	Wedgetail	2	SW			
0839	Wedgetail	1	SW			
0841	Sooty Shear	1	E			
0842	Wedgetail	1	SW			
0843	Sooty Tern	1	S			
0846	R.F. Booby	1	SW			
0847	Wedgetail	1	S			
0850	Wedgetail	2	SW			
0851	Bonin Is P	1	NW			
0853	Bonin Is P	1	NW			
0855	Sooty Shear	2	NW			
0858	Bonin Is P	1	SW			
0900	Sooty Shear	1	SW			
0904	RF B	1	W			
0905	Wedgetail	1	SW		Dark	
0906	Common Noddy	1	SW			
0907	Wedgetail	6	SW		2 dark - not a flock	
0908	Sooty Tern	1	SE			
0908	Common Noddy	1	SW			
	Sooty Shear	1	SE			
0909	R.F. Booby	1	SW			
0910	RF Booby	2	W		Travelling	
	Noddy Tern	1				
	Wedgetail	4				
	Frigate	1				
0911	Bonin Is P	1	SW			
0912	Wedgetail	1	SE			



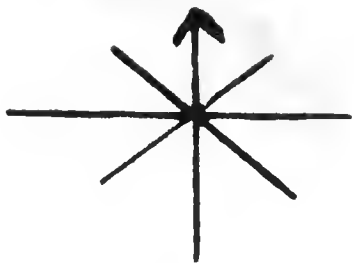
DATE 20 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
0913	wedgetail	4	SW			
0914	sooty shear	7	E		not a flock	
0915	Bonin Is P.	1	W			
0916	wedgetail	7	SW		not a flock	
	Common Noddy	2	W			
	sooty shear	1	W			
0918	Bonin Is P.	1	SW			
0920	shear-pet	1	SW		sitting on water	
0926	wedgetail	2	SW			
0927	Bonin Is P.	2	SW			
0928	wedgetail	1	S			
0930	wedgetail	2	SW			
0931	sooty shear	2	E			
0932	wedgetails	2	⊙			
0933	Bonin Is P.	1	SW			
0934	wedgetail	1	SW			
0936	wedgetail	3	SW			
0938	wedgetail	2	SW			
2 { 0940	wedgetail	10	SW		Feeding	
0941	Bonin Is P.	1	SW			
0943	wedgetail	8	SW		not a flock	
0944	wedgetail	16	SW		not a flock	
0948	Bonin Is P.	1	SW			
3 { 0950	wedgetail	700	-		all scattered all over - feeding gathering?	
0950	wedgetails	41	SW			
1000	wedgetail	1	SW			
1004	wedgetail	41	SW			
1005	Bonin Is P.	1	E			
1006	RF Booby	1	E			
1007	wedgetail	2	SW			
1008	wedgetail	2	SE			
1011	wedgetail	2	S			
1012	wedgetail	41	SW			
1014	Bonin Is P.	1	SW			
1017	Common Noddy	3	SW			
1018	Common Noddy	2	W			



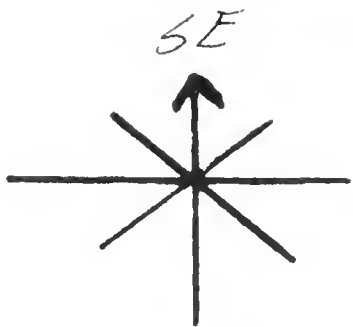
DATE 20 - Sept 64
Pg. # 4

	time	species	#	dir.	hgt.	remarks	loc.
	1019	RFB	1	W		immature - not a flock	
		Brn Booby	1				
		Common Noddy	6				
		Wedgetail	8				
		Barn Swallow	1				
	1020	Wedgetail	2	SE		Travelling	
4 {	1024	Wedgetail	12	SE			
		Common Noddy	8				
	1028	Common Noddy	1	SE			
		Sooty Shearwater	1				
		Wedgetail	1				
	1029	Common Noddy	1	E			
	1030	Sooty Shear?	4	S		not a flock	
		Common Noddy	4				
	1031	BRN Booby	1	⊙		immature	
		Common Noddy	2	E			
5 {	1032	Sooty Shear	38	SE		Travelling	
	1033	Common Noddy	2				
	1034	Sooty Shear?	6	SE		not a flock	
	1035	Common Noddy	2	W			
	1035	Common Noddy	3	S		not a flock	
		RFB	2	SW			
		Sooty Shear	7	SE			
		Wedgetail	4	W			
	1036	Brn Booby	1	⊙		immature	
	1037	Common Noddy	5	S		not a flock	
	1038	Sooty Shear	3	SE			
	1039	RFB	3	SW			
	1042	Brn Booby	1	SE			
	1045	Brn Booby	3	W		2 immature	
	1046	RFB	4	W			
	1048	Common Noddy	3	W			
	1054	Common Noddy	1				
		RFB	2				
		Wedgetail	1				
	1055	Common Noddy	3	S			
	1055	RFB	1	S			
	1057	Common Noddy	1	S			
	1057	WT	1	S			
	1058	RFB	1	S			
	10						



DATE Sept 20
Pg. # 5

time	species	#	dir.	hgt.	remarks	loc.
1100	CN	1	SW			
1103	RFB	1	NE			
1104	RFB	1	SW			
1106	CN	2	SW			
1108	RFB	2	Q			
1113	CN	1	SW			
1116	CN	3	SW			
1121	CN	1	W			
1125	CN	1	W			
1128	CN	2	W			
1129	RFB	1	SW			
1130	G. Frigate	1	NE			
1130	WT	1	SE			
1133	CN	3	SE			
6 { 1144	CN	10±	S		travelling	
1145	CN	4	S			
7 1147	CN	25±	E		travelling	
1149	CN	3	S			
1150	Obsen. Cuck					



DATE 12 Sept 64
Pg. # 5

0601 sunset

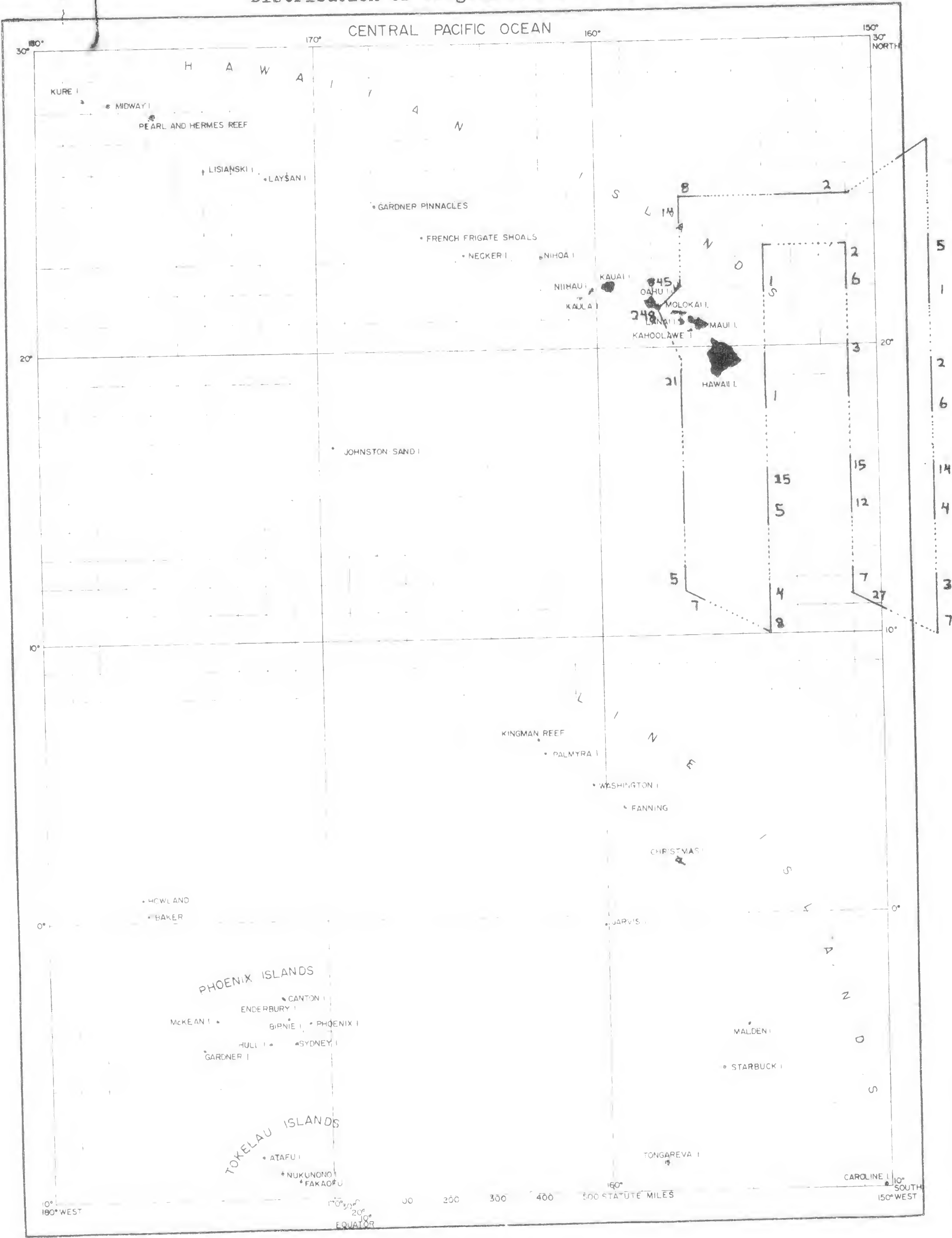
	time	species	#	dir.	hgt.	remarks	loc.
SEP	1747	DAP	1	SW			
	1752	Wedgetail	1	SE		Dark	
P-3		WNP	1				
	1753	Thomson's SP	1	G			
SEP	1800	DAP	2	S			
QWP	1803	Barnard's P	1	SE			
SEP	1804	DAP	1	S			
SEP	1809	DAP	1	S			
	1817	Endabrownations	9				

TC # 8

T.

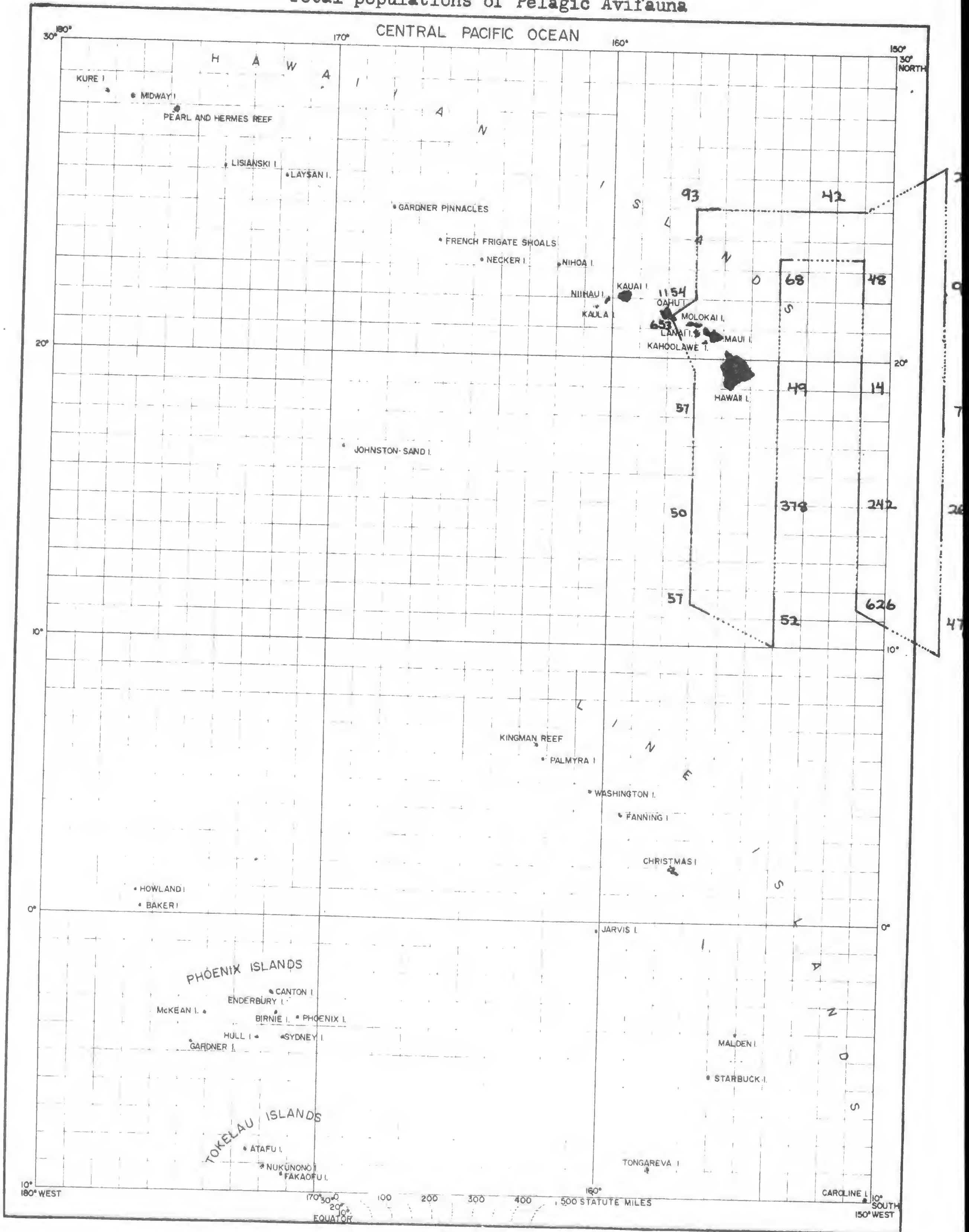
T. Cromwell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



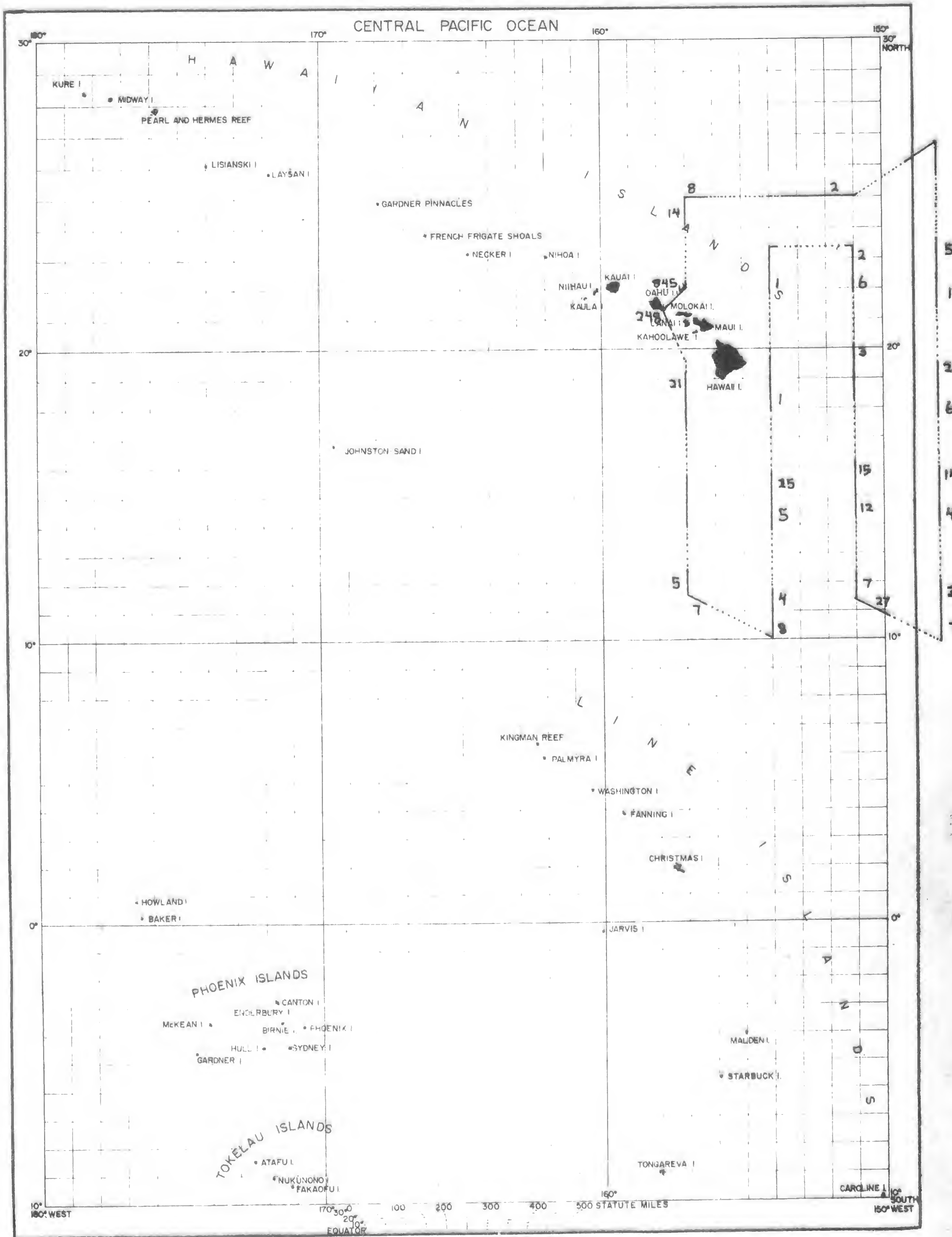
T. Cromwell September 1964 Cruise

Total populations of Pelagic Avifauna



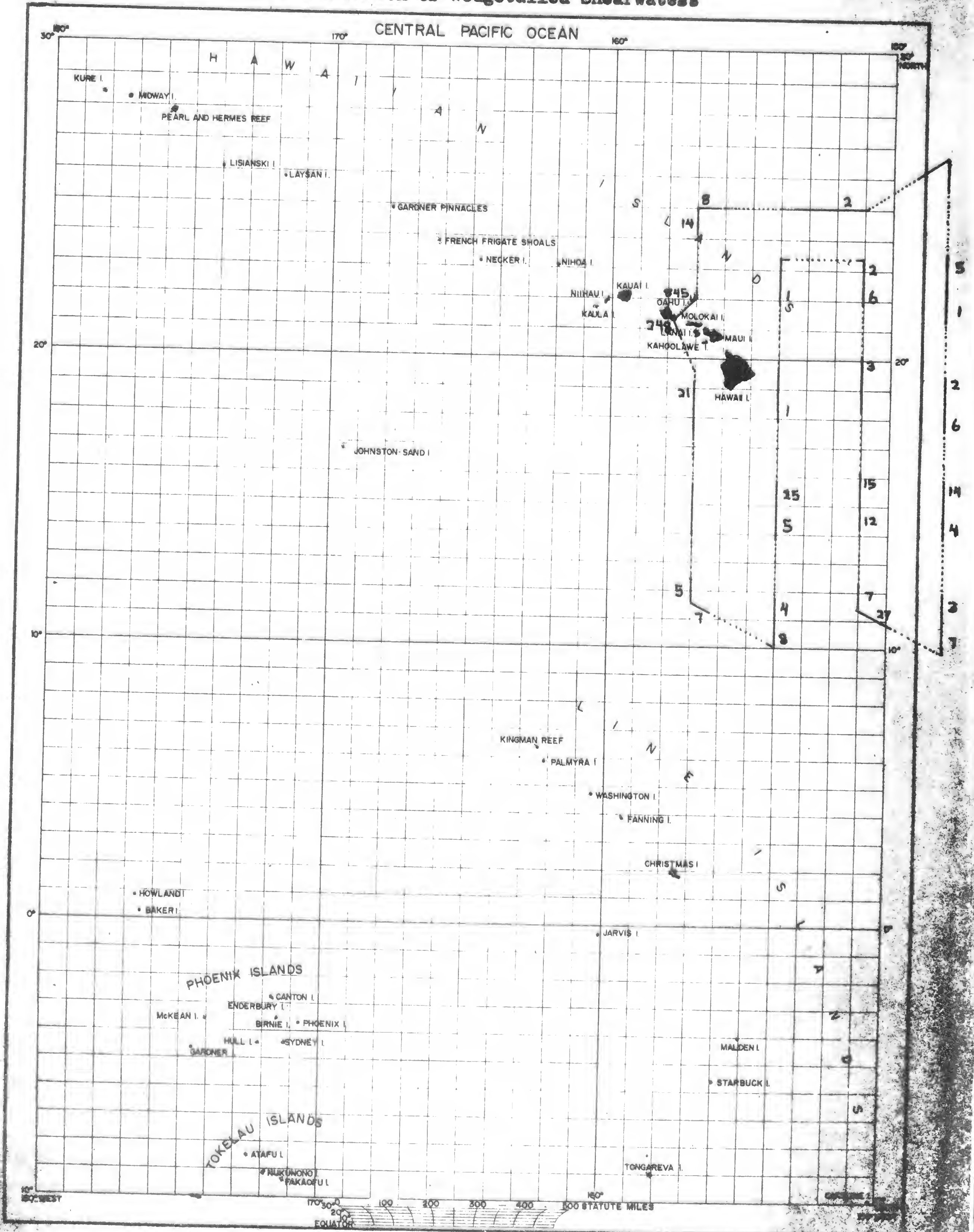
T.
T. Cromwell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



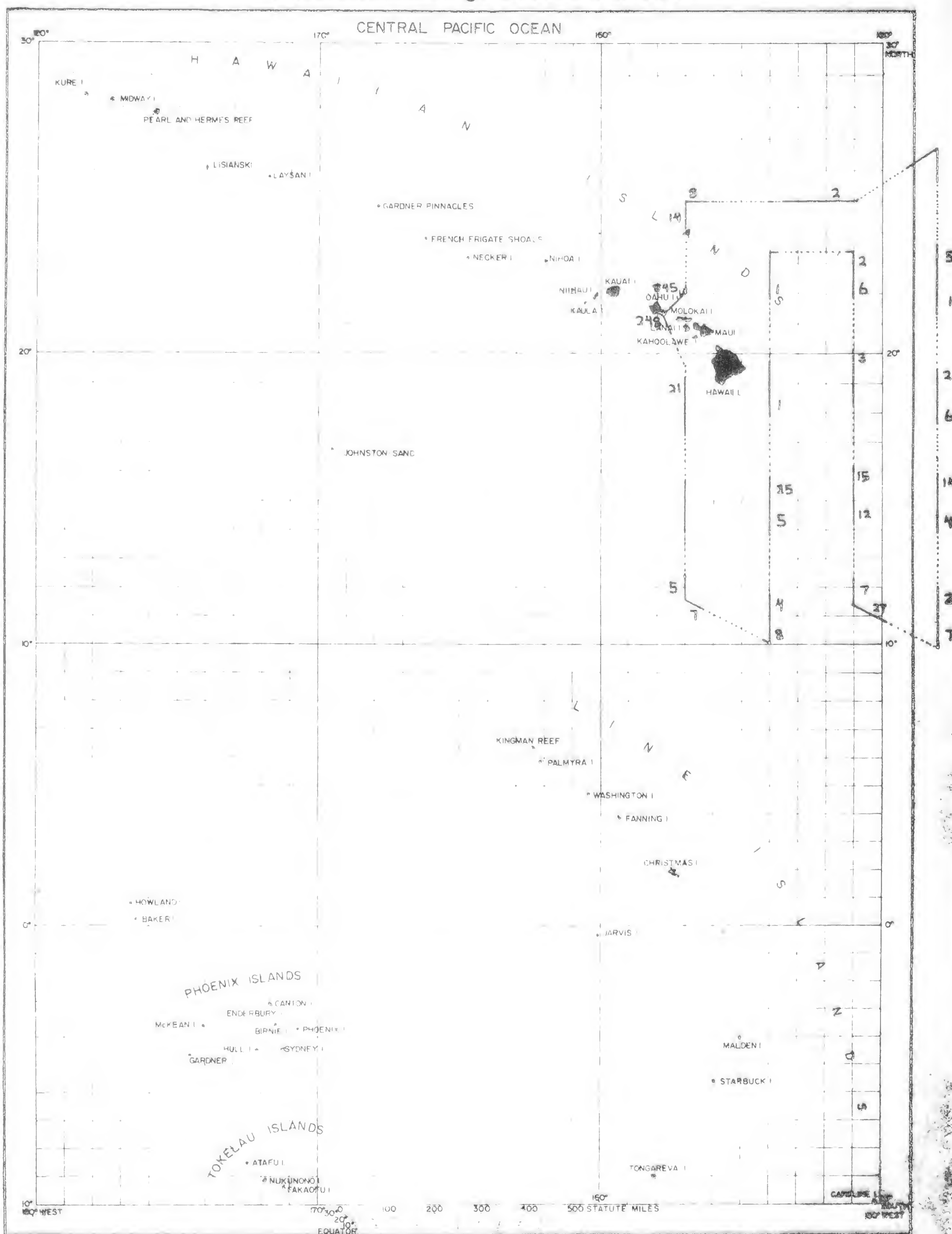
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T. Cromwell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



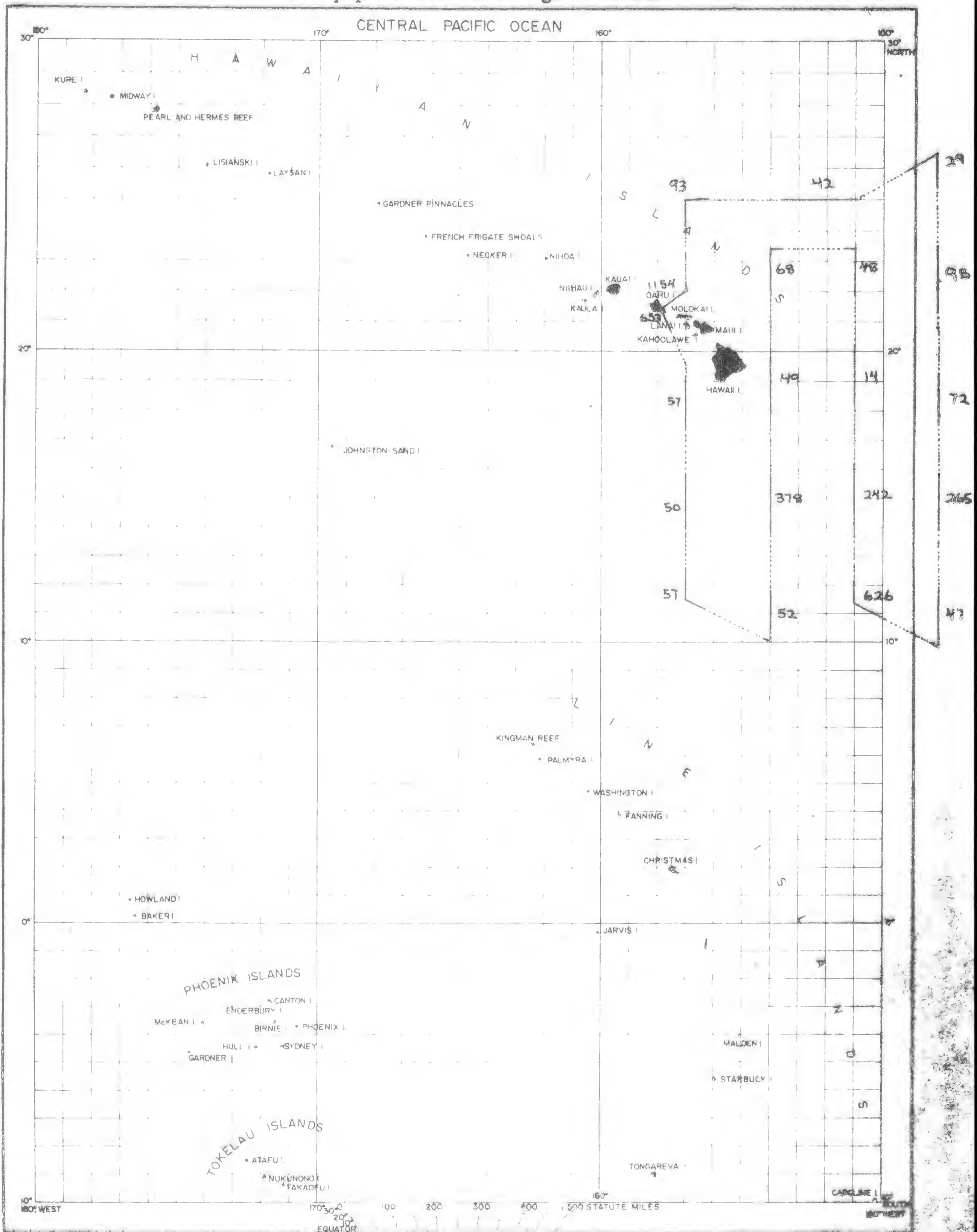
T. Crowell September 1964 Cruise

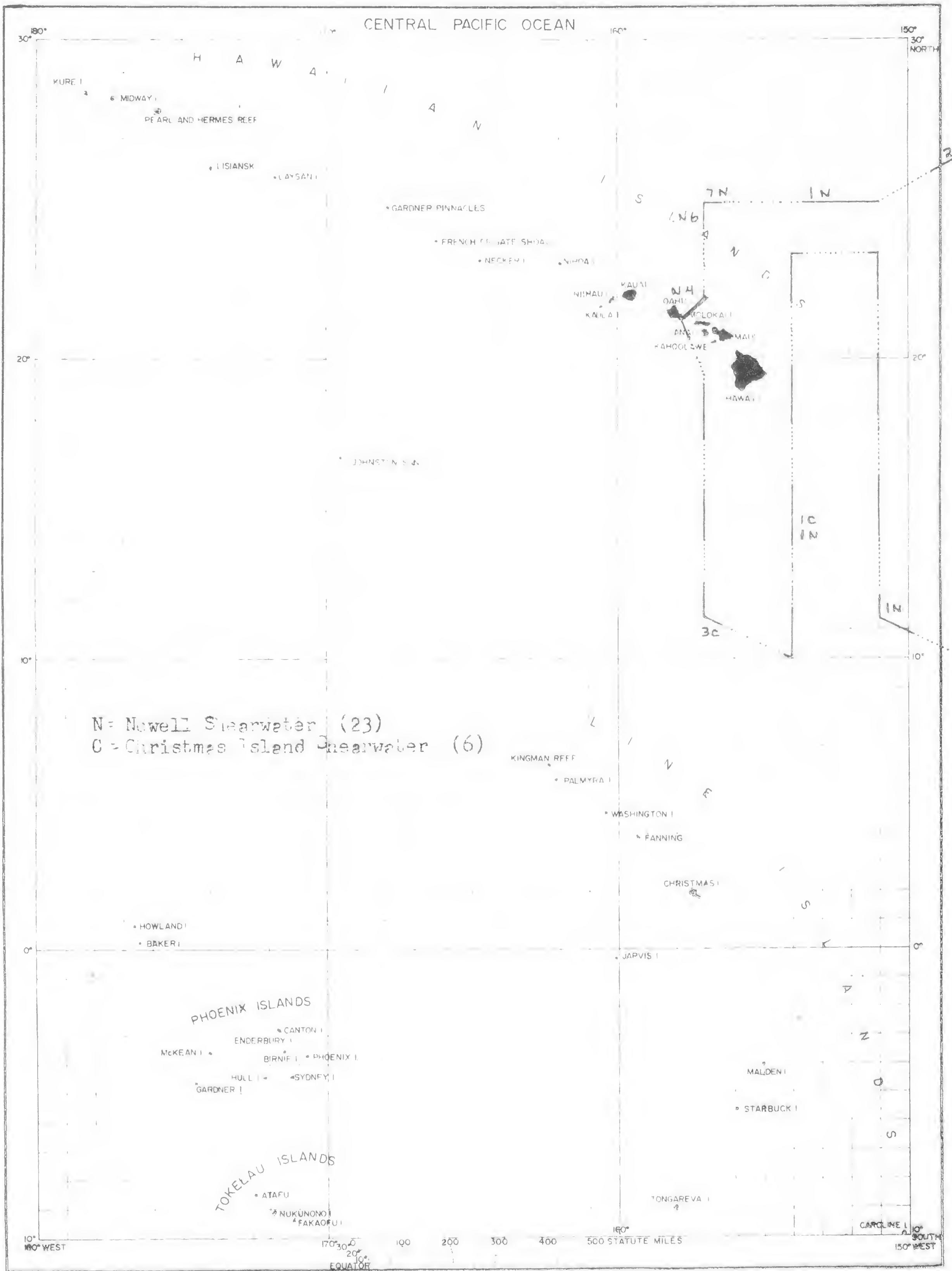
Distribution of Wedgetailed Shearwaters

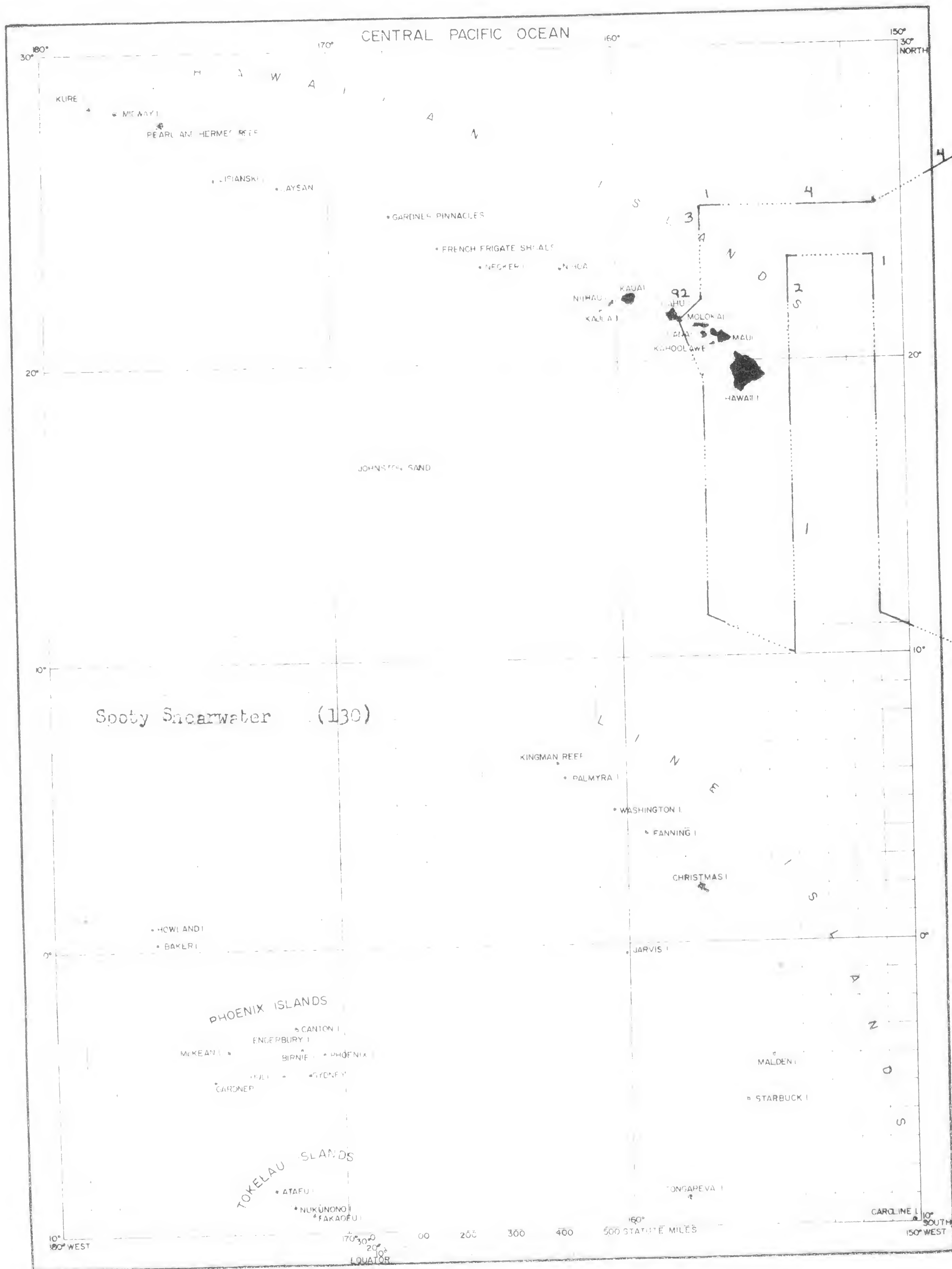


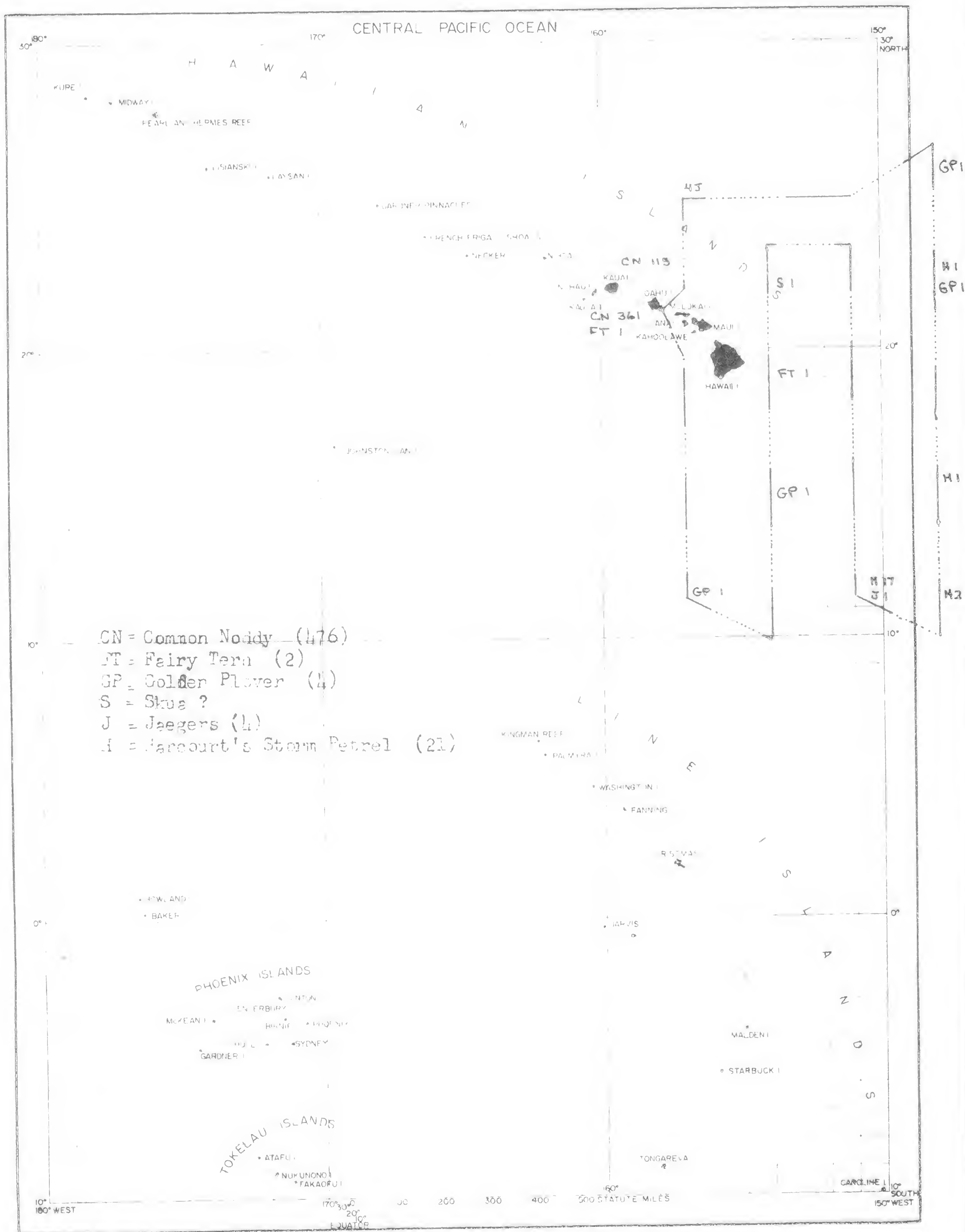
T. Cromwell September 1964 Cruise

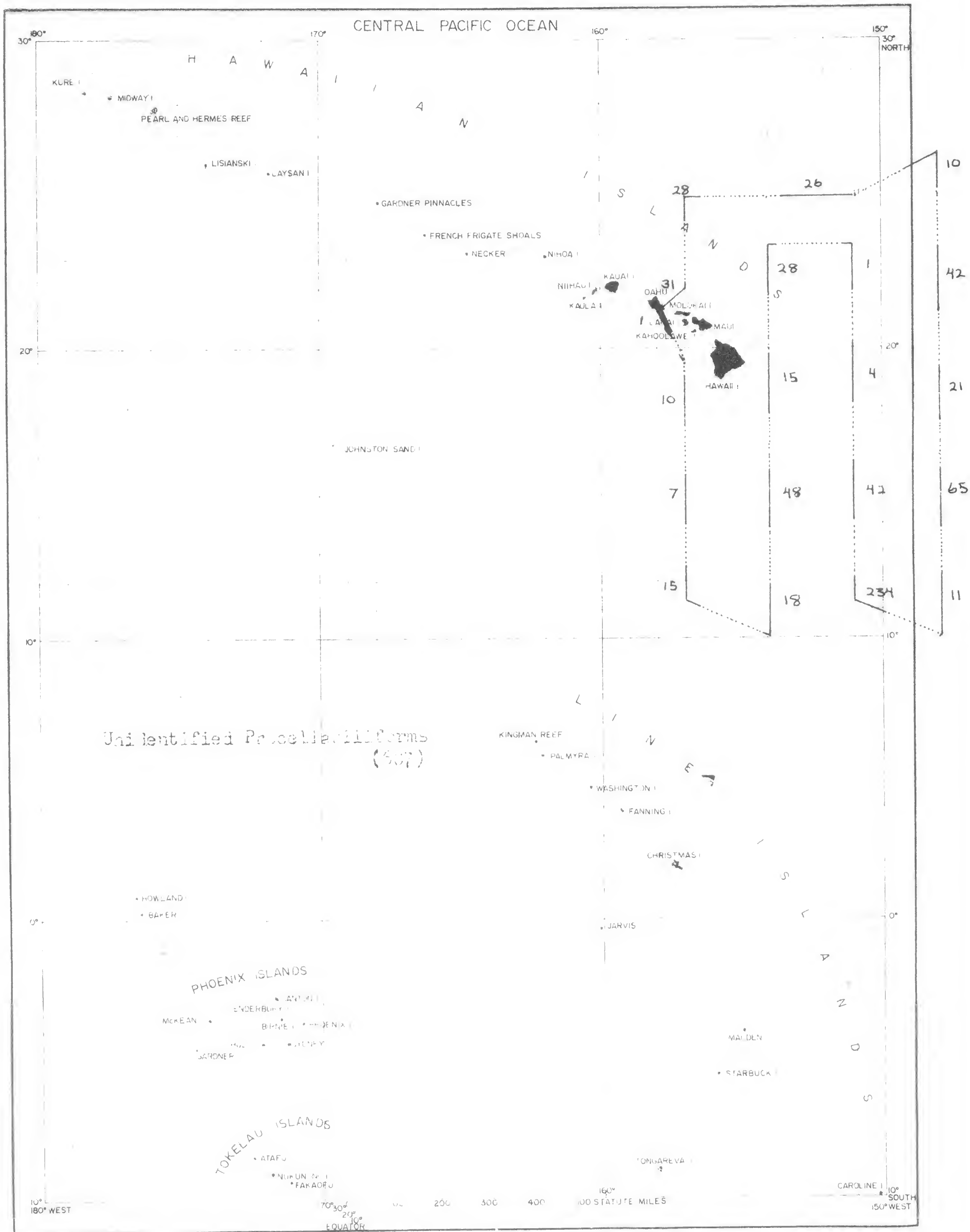
Total populations of Pelagic Avifauna

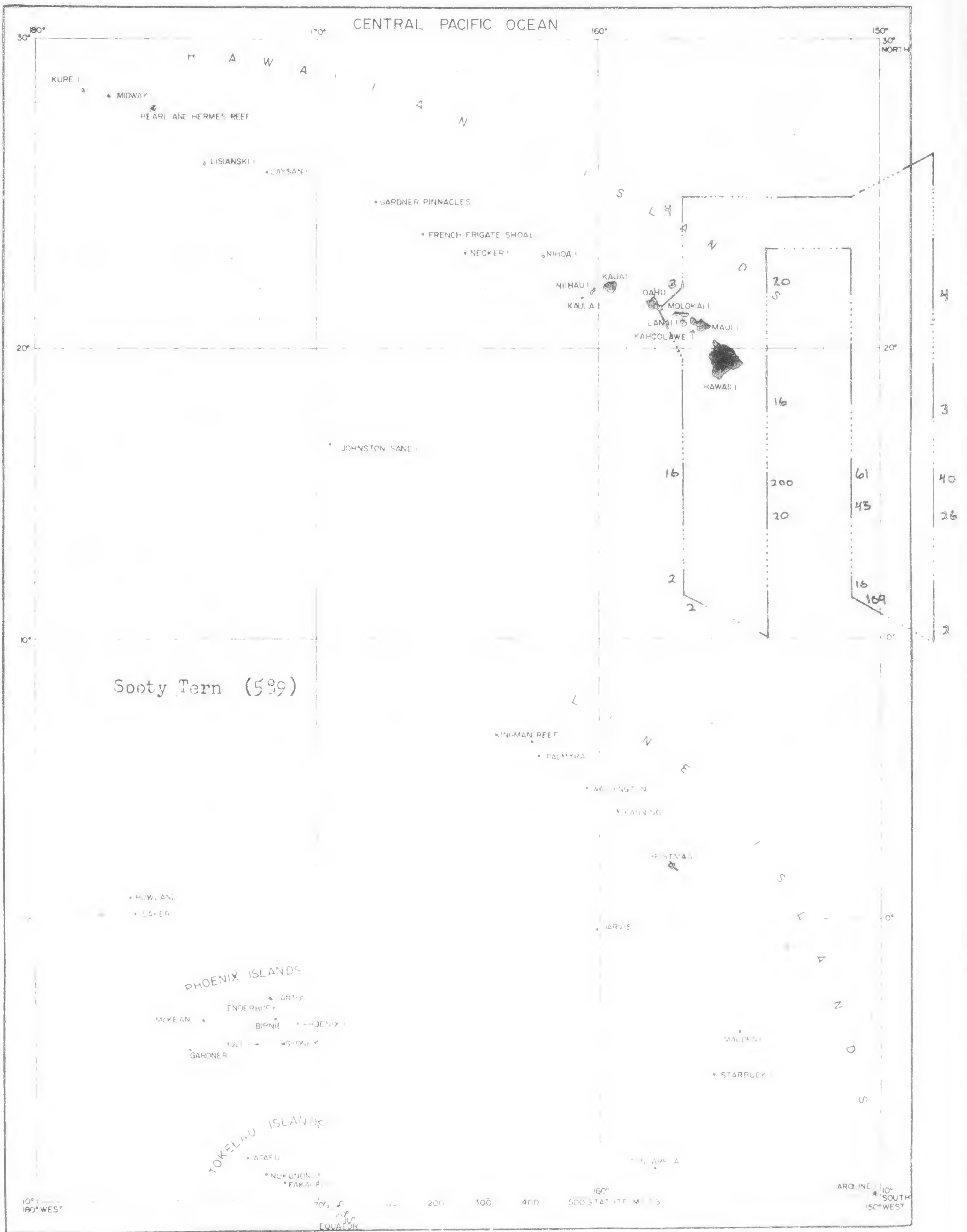


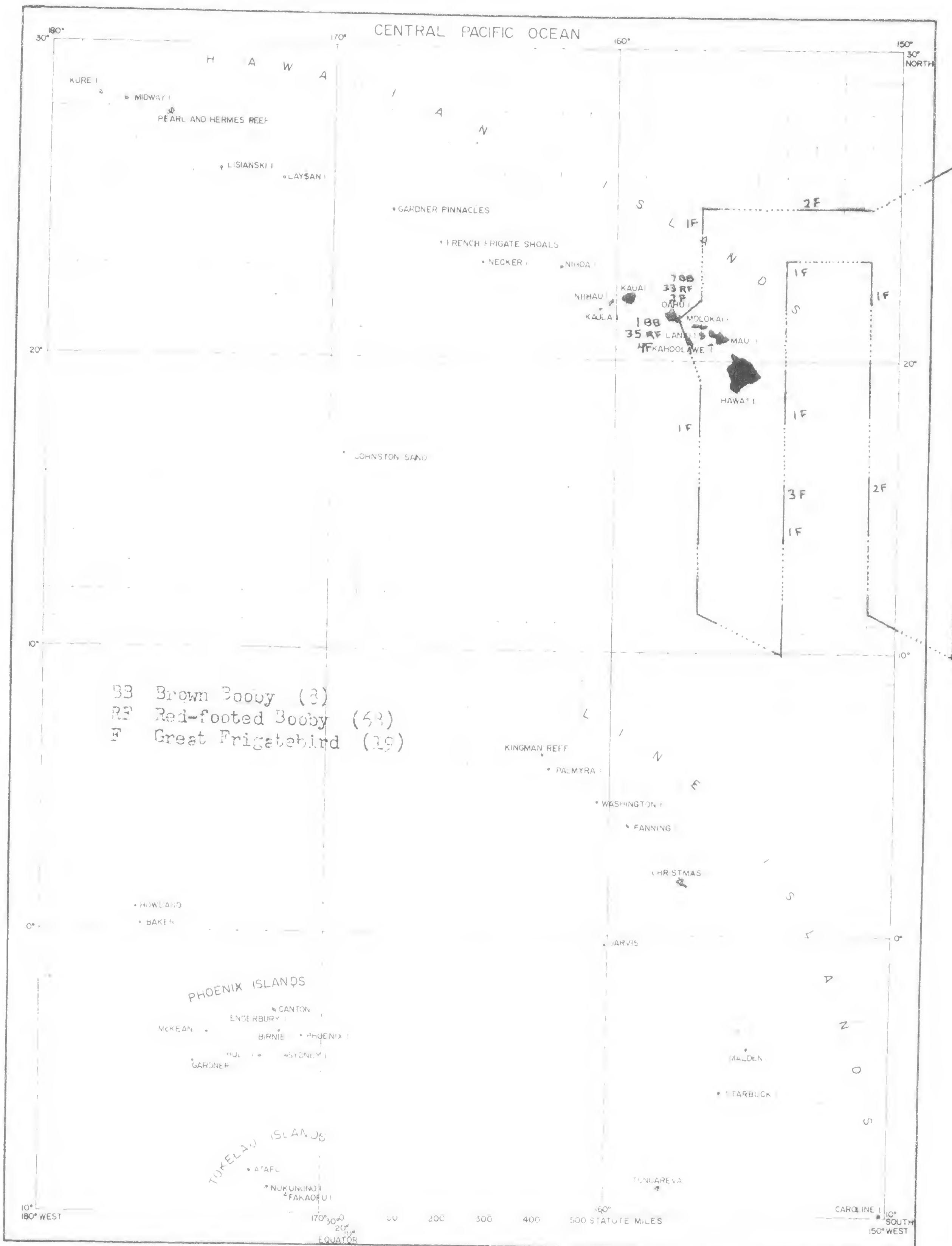


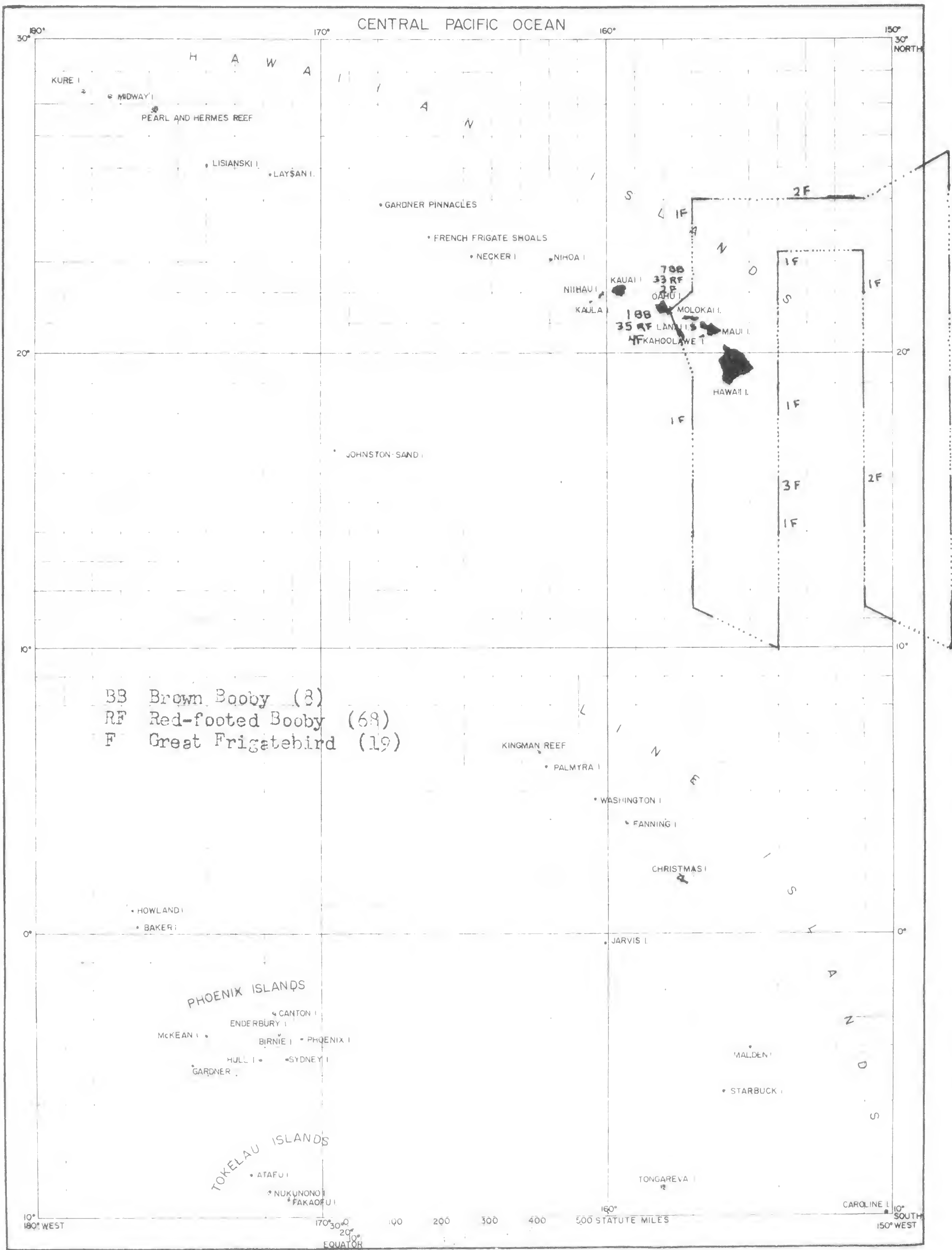


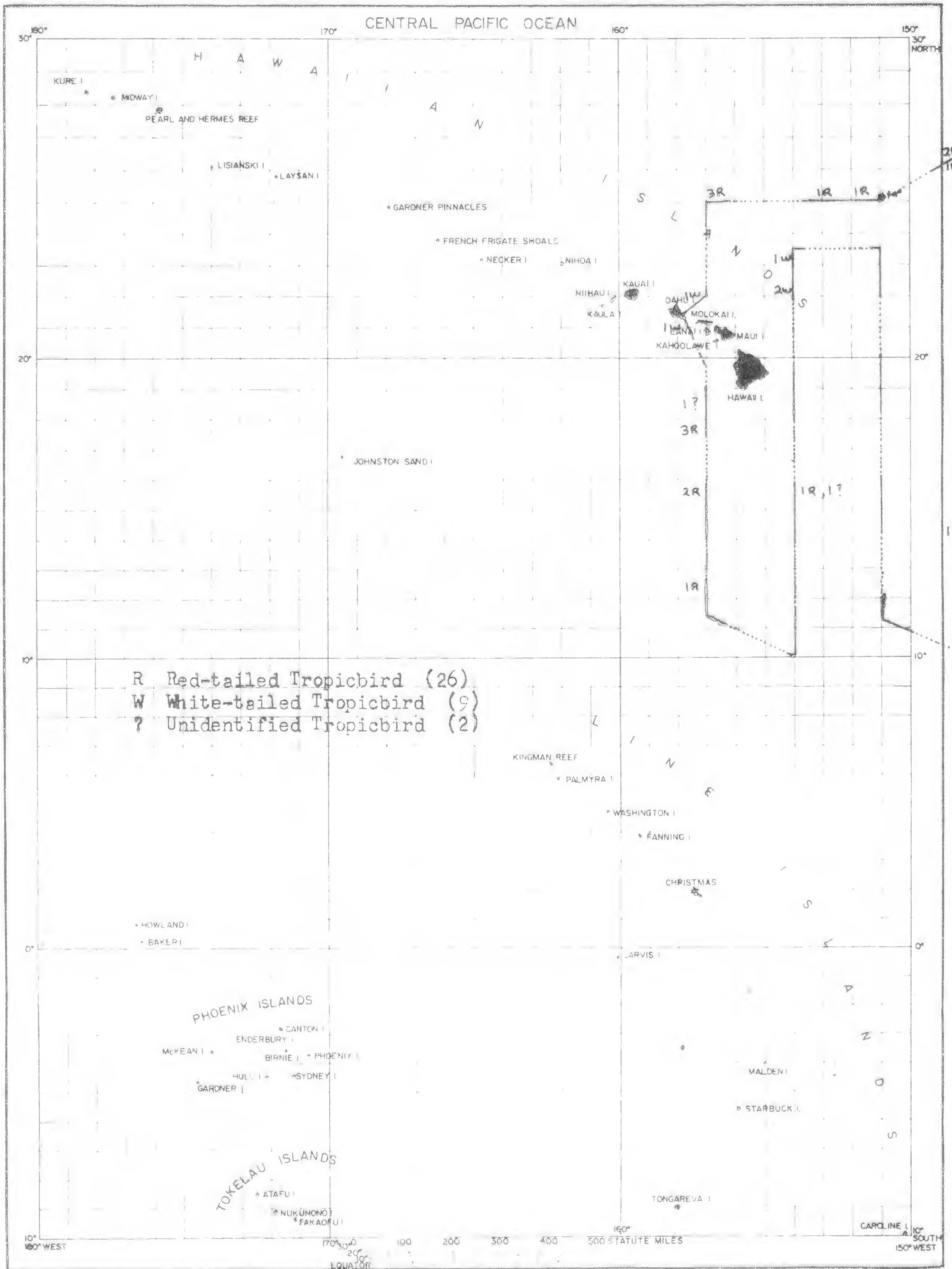


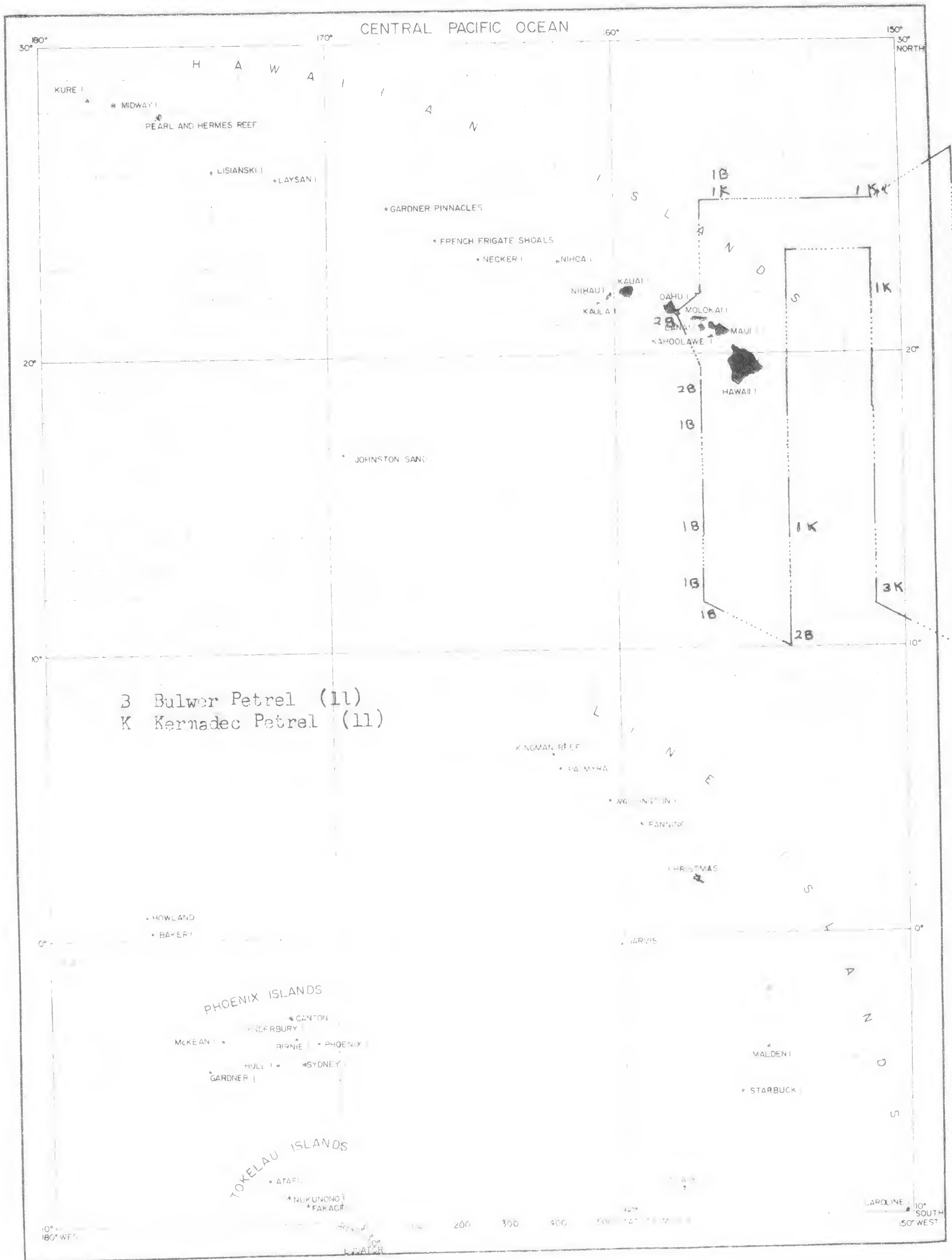


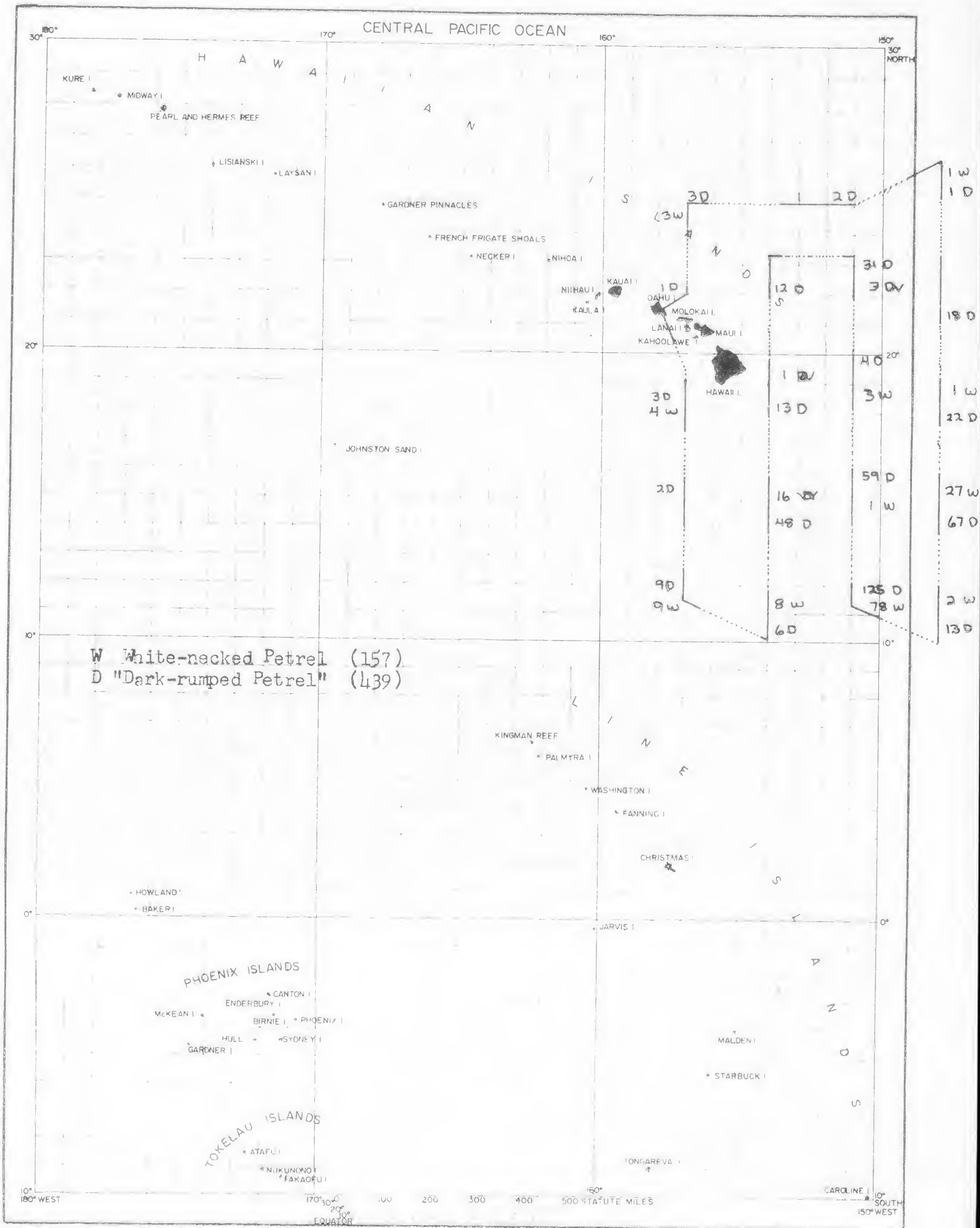


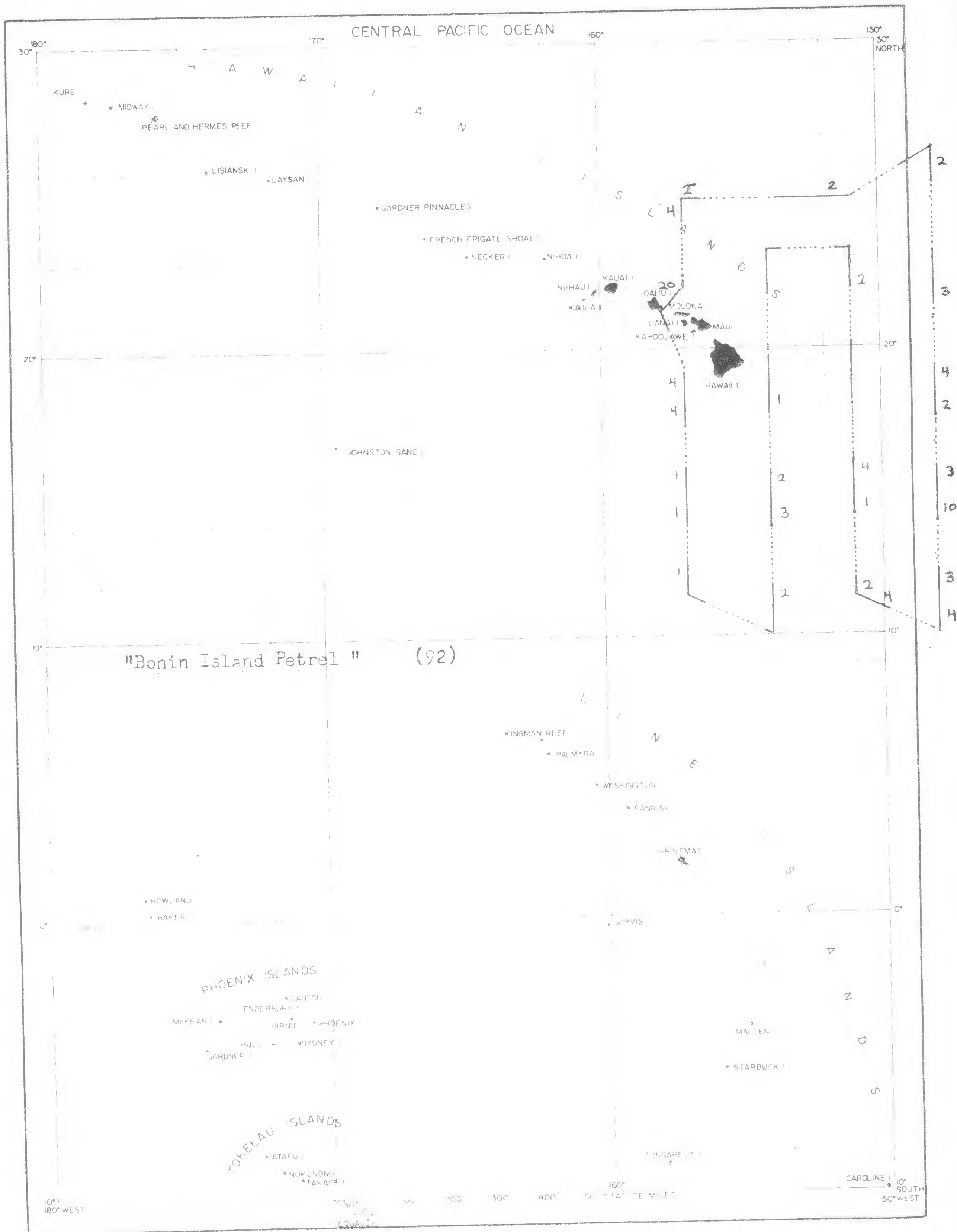












SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE

1 Sept 64

Time at sunrise = 1336 Position at sunrise = 21°17'N 157°58'W

Time at sunset = 1844 Position at sunset = 20°39'N 157°19'W

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset = 53

Miles traveled from sunset to 2400 hours = 26

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.			<u>20 09</u> <u>15 0</u>	<u>10 67</u> <u>17 29</u> <u>17 29</u>
5.				
6.				

DATE

2 Sept 64

Time at sunrise = 0613 Position at sunrise = 19°3'N 158°59'W

Time at sunset = 1841 Position at sunset = 17°20'N 157°01'W

Miles traveled from 0000 hours to sunrise = 66

Miles traveled from sunrise to sunset = 94

Miles traveled from sunset to 2400 hours = 51

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

16 80
15 10

DATE 3 Sept 64

Time at sunrise = 0616 Position at sunrise = 15° 47' N 157° 00' W

Time at sunset = 1838 Position at sunset = 14° 12' N 157° 01' W

Miles traveled from 0000 hours to sunrise = 51

Miles traveled from sunrise to sunset = 95

Miles traveled from sunset to 2400 hours = 54

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.			
4.			
5.			
6.			

DATE 4 Sept 64

Time at sunrise = 0619 Position at sunrise = 12° 34' N 157° 01' W

Time at sunset = 1833 Position at sunset = 11° 07' N 156° 15' W

Miles traveled from 0000 hours to sunrise = 37

Miles traveled from sunrise to sunset = 118 120

Miles traveled from sunset to 2400 hours = 31

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.			
4.			
5.			
6.			

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

1038

155

AT SEA SURVEY CHART B

DATE

5-Sept 64

Time at sunrise = ^{06⁰⁶}

Position at sunrise = ^{005'} 10° 04' N ^{13'} 154° 15' W

Time at sunset = ^{18²⁴}

Position at sunset = 11° 43' N 157° 00' W

Miles traveled from 0000 hours to sunrise = 47

Miles traveled from sunrise to sunset = 126

Miles traveled from sunset to 2400 hours = 64

12 47
11 43

TIME OF FIX

TYPE OF FIX

LONGITUDE

LATITUDE

1.

2.

3.

4.

5.

6.

15 59
117

13 49
12 47

DATE

6-Sept 64

Time at sunrise = ^{06⁰⁴}

Position at sunrise = 13° 49' N 154° 14' W

Time at sunset = ^{18²⁴}

Position at sunset = 15° 59' N 153° 59' W

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunrise to sunset = 130

Miles traveled from sunset to 2400 hours = 47

TIME OF FIX

TYPE OF FIX

LONGITUDE

LATITUDE

1.

2.

3.

4.

5.

6.

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART B

17 44
16 46

DATE 7 Sept 64

Time at sunrise = ⁰⁶⁰³ Position at sunrise = $17^{\circ} 44' N$ $153^{\circ} 58' W$

Time at sunset = ¹⁸²⁶ Position at sunset = $19^{\circ} 54' N$ $154^{\circ} 00' W$

20 39
19 54
6 45

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 130

Miles traveled from sunset to 2400 hours = 45

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.	600		71 53
4.	120		20 39
5.	23		1 24
6.	743	600 120 23 743	

DATE 8 Sept 64

Time at sunrise = ⁰⁶⁰¹ Position at sunrise = $21^{\circ} 53' N$ $153^{\circ} 59' W$

Time at sunset = ¹⁸²⁶ Position at sunset = $23^{\circ} 30' N$ $153^{\circ} 32' W$

Miles traveled from 0000 hours to sunrise = 77

Miles traveled from sunrise to sunset = 122

Miles traveled from sunset to 2400 hours = 55

77
26
122

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.			
4.			
5.			
6.			

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE

9 Sept 64

Time at sunrise = 0551 Position at sunrise = 13° 22' N, 151° 15' W

Time at sunset = 1812 Position at sunset = 13° 02' N, 150° 15' W

Miles traveled from 0000 hours to sunrise = 41

Miles traveled from sunrise to sunset = 119

Miles traveled from sunset to 2400 hours = 52

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

DATE

10 Sept 64

Time at sunrise = 0550 Position at sunrise = 13° 22' N, 150° 50' W

Time at sunset = 1810 Position at sunset = 13° 02' N, 150° 15' W

Miles traveled from 0000 hours to sunrise = 46

Miles traveled from sunrise to sunset = 175

Miles traveled from sunset to 2400 hours = 31

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

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3-4-64

SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 11 Sept 64

Time at sunrise = ⁰⁶⁵¹ Position at sunrise = ^{16°15'N 111°10'W}

Time at sunset = ¹⁸⁰⁹ Position at sunset = ^{18°35'N 109°00'W}

Miles traveled from 0000 hours to sunrise = ⁴⁸ Total miles 728

Miles traveled from sunrise to sunset = ¹²⁰

Miles traveled from sunset to 2400 hours = ²⁰

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
--	-------------	-------------	-----------	----------

1.

2.

3. ¹⁷²⁴

4.

5.

6.

DATE 12 Sept 64

Time at sunrise = ⁰⁵⁵³ Position at sunrise = ^{18°20'N 107°00'W}

Time at sunset = ¹⁸⁰¹ Position at sunset = ^{16°45'N 109°15'W}

Miles traveled from 0000 hours to sunrise = ⁵³

Miles traveled from sunrise to sunset = ¹²² Total miles 728

Miles traveled from sunset to 2400 hours = ⁶⁵

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
--	-------------	-------------	-----------	----------

1.

2.

3.

4.

5.

6.

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AT SEA SURVEY CHART B

DATE 13 Sept 64

Time at sunrise = ⁰⁵⁴² Position at sunrise =

Time at sunset = ¹⁷⁵⁵ Position at sunset =

Miles traveled from 0000 hours to sunrise = 64

Miles traveled from sunrise to sunset = 112

Miles traveled from sunset to 2400 hours = 65

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

DATE 14 Sept 64

Time at sunrise = ⁰⁵⁴¹ Position at sunrise =

Time at sunset = ¹⁷⁵⁶ Position at sunset =

Miles traveled from 0000 hours to sunrise = 55

Miles traveled from sunrise to sunset = 122

Miles traveled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 15 Sept 64

Time at sunrise = ⁰⁵⁴⁰ Position at sunrise = ^{17° 20' N 147° 30' W}

Time at sunset = ¹⁷⁵⁴ Position at sunset = ^{19° 20' N 147° 51' W}

Miles traveled from 0000 hours to sunrise = 33

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 17

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.		^{17 37} ^{16 54} 37	^{147 30} ^{147 51} 21	
2.				
3.				^{24 45} ^{23 29} 36
4.				^{21 20} ^{21 21} 23
5.				
6.				

DATE 16 Sept 64

Time at sunrise = ⁰⁵³⁹ Position at sunrise = ^{21° 20' N 147° 30' W}

Time at sunset = ¹⁷⁵³ Position at sunset = ^{23° 29' N 147° 30' W}

Miles traveled from 0000 hours to sunrise = 57

Miles traveled from sunrise to sunset = ¹²¹
~~123~~

Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.		^{21 20} ^{21 29} 17	^{147 30} ^{147 30} 0	
2.				
3.				
4.				
5.				
6.				

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE

17 Sept 64

Time at sunrise = ⁰⁵³⁹ Position at sunrise = ^{25°16'N 147°54'W}

Time at sunset = ¹⁸¹⁴ Position at sunset = ^{25°00'N 149°00'W}

Miles traveled from 0000 hours to sunrise = ⁵¹

Miles traveled from sunrise to sunset = ¹³⁵

Miles traveled from sunset to 2400 hours = ⁸⁶

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
-------------	-------------	-----------	----------

1.

2.

3.

4.

5.

6.

DATE

18 Sept 64

Time at sunrise = ⁰⁵⁴¹ Position at sunrise = ^{24°51'N 151°15'W}

Time at sunset = ¹⁸¹⁶ Position at sunset = ^{25°10'N 153°45'W}

Miles traveled from 0000 hours to sunrise = ⁶¹

Miles traveled from sunrise to sunset = ¹⁴⁴

Miles traveled from sunset to 2400 hours = ⁵²

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1. ¹⁶⁷¹

2.

3.

4.

5.

6.

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60°
12°

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE 19 Sept 64

Time at sunrise = ⁰⁶¹¹ Position at sunrise = ^{21° 30' N}
Time at sunset = ⁰⁸²⁷ Position at sunset = ^{23° 39' N} ^{157° 00' W}

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunrise to sunset = 90 129 729 = total miles

Miles traveled from sunset to 2400 hours = 35

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.			
4.			
5.			300
6.			

DATE 20 Sept 64

Time at sunrise = ⁰⁶¹⁵ Position at sunrise = ^{21° 52' N} ^{157° 05' W}
Time at sunset = ¹²⁰⁰ Position at sunset =

Miles traveled from 0000 hours to sunrise = 62 346 total miles

Miles traveled from sunrise to sunset = 65

Miles traveled from sunset to 2400 hours =

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			
2.			
3.			
4.			
5.			
6.			

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 1 Sept 64 Total Minutes: 314 Total Miles 53

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
79 79	653	8.27 8.27	12.32

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
46 46	43	0	2	251	248	0	2	5.43 5.46	5.77	0.00	1.00	4.74	4.66 4.68	0	.04

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	0	1	1	0	1	1.00	0.00	1.00	.02	0	.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
30	361	12.0	6.81

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.0	0.0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
14	0	13	1	36	0	35	1	2.57 2.57	0.00	2.69	1.00	.68 .68	0	.66 .66	.02

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	4	1.33	.08

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
6	470	.11	5	267	.10

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 2 Sept 64 Total Minutes: 742 Total Miles 94

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
45	55 57	1.27	.61

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
39	15	16	3	49	21	20	3	1.26	1.40	1.25	1.00	.52	.22	.21	.03

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	1	0	4 3	0	0	2.00	3.00	1.00	.04	.03	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	.02

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 3 Sept 64 Total Minutes: 742 Total Miles 95

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
11 13	50	3.58 3.85	0.53

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
8	0	4	1	12	0	4	1	1.50	0.00	1.00	1.00	.13	0	.04	.01

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1.00	1.00	0.00	.02	.02	.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	36	9.00	0.38

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
4 4	4 41	.04	2	25 25	0.02 0.02

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 4 Sept 64 Total Minutes: 73 41 Total Miles 118 120

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
42 42	57	1.36 1.36	0.48

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
44	10	22	2	51	12	31	2	1.16	1.20	1.18	1.00	0.43	0.10	0.21	.02
		22				26								.22	

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	1	1	0	1.00	0.00	0.00	.01	.01	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	4	2.00	.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0.00	0.00	0.00	0.00

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 5 Sept 64 Total Minutes: 738 Total Miles 126

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>42</u>	<u>52</u>	<u>1.24</u>	<u>0.41</u>

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>40</u>	<u>9</u>	<u>29</u>	<u>1</u>	<u>50</u>	<u>12</u>	<u>35</u>	<u>2</u>	<u>1.25</u>	<u>1.33</u>	<u>1.21</u>	<u>2.00</u>	<u>0.40</u>	<u>0.10</u>	<u>0.28</u>	<u>0.02</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>0.01</u>

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 6 Total Minutes: 740 Total Miles 130

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>63</u>	<u>378</u>	<u>6.00</u>	<u>2.91</u>

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>61</u>	<u>8</u>	<u>34</u>	<u>1</u>	<u>150</u>	<u>30</u>	<u>77</u>	<u>1</u>	<u>2.46</u>	<u>3.75</u>	<u>2.26</u>	<u>2.00</u>	<u>1.15</u>	<u>0.23</u>	<u>0.59</u>	<u>0.02</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>1.00</u>	<u>1.00</u>	<u>0.00</u>	<u>.01</u>	<u>0.00</u>	<u>0.00</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>4</u>	<u>220</u>	<u>1.00 55.00</u>	<u>1.69</u>

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>6.01</u>

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>3</u>	<u>4</u>	<u>1.33</u>	<u>0.03</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>3</u>	<u>307</u>	<u>0.03</u>	<u>1</u>	<u>127</u>	<u>0.01</u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 7 Total Minutes: 143 Total Miles 130

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
24	49	2.04	0.38

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
22	1	2 ¹²	0	31	1	17	0	1.41	1.00	1.42	0.00	0.24	0.01	0.13	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	17	4.25	0.13

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
2	26	0.02	1	21	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 8 Total Minutes: 745 Total Miles 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
15	68	4.53	0.56

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
12	1	5	0	43	1	12	0	3.58	1.00	2.40	0.00	0.35	0.01	0.10	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
3	0	3	3	0	3	1.00	0.00	1.00	0.02	0.00	0.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	20	20.00	0.16

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
1	54	0.01	1	54	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 9 Sept 64 Total Minutes: 741 Total Miles 117

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>11</u>	<u>118</u>	<u>11.31</u>	<u>.411</u>

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>14</u>	<u>4</u>	<u>7</u>	<u>0</u>	<u>47</u>	<u>8</u>	<u>37</u>	<u>0</u>	<u>3.36</u>	<u>2.00</u>	<u>5.29</u>	<u>0</u>	<u>.40</u>	<u>.07</u>	<u>.32</u>	<u>0</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<hr/>											

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<hr/>			

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<hr/>			

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<hr/>															

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>.01</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>2</u>	<u>39</u>	<u>.62</u>	<u>1</u>	<u>12</u>	<u>.01</u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 10 Total Minutes: 740 Total Miles 135

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
11	14	1.27	0.10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
11	2	7	0	14	3	8	0	1.27	1.50	1.14	0.00	0.10	0.02	0.06	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0				0				0				0			

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 11 Sept 64 Total Minutes: 738 Total Miles 124

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
20	242	12.10	1.95

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
26	3	18	5	174	24	163	0	5.15	7.00	4.06	0	1.08	.22	.32	0

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	106	26.40	1.85

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	2	2.00	.02

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
3	221	.02	3	221	.02

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 12 Sept, 64 Total Minutes: 728 Total Miles 124 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>116</u>	<u>626</u>	<u>5.40</u>	<u>5.05 5.13</u>

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>146</u>	<u>12</u>	<u>133</u>	<u>0</u>	<u>498</u>	<u>34</u>	<u>463</u>	<u>0</u>	<u>3.41</u>	<u>2.83</u>	<u>3.47 3.48</u>	<u>0.00</u>	<u>4.02 4.02</u>	<u>0.27 0.28</u>	<u>3.73 3.80</u>	<u>0.00</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>12</u>	<u>125</u>	<u>10.42</u>	<u>1.01 1.02</u>

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>0.01</u>

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>15</u>	<u>451</u>	<u>0.12 .14</u>	<u>3</u>	<u>157</u>	<u>0.02</u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 13 Total Minutes: 733 Total Miles 119

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
43	47	1.09	0.39

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
42	9	25	0	45	10	26	0	1.07	1.11	1.04	0.00	0.38	0.08	0.22	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	2	2.00	0.02

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 14 Sept 64 Total Minutes: 735 Total Miles 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
63	265	4.21	2.17

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
71	5	47	0	184 196	18	113	0	2.76 2.76	3.60	2.40	0.00	1.61	0.15	0.93	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	1	1	3	2	1	1.50	2.00	1.00	0.02	0.01	0.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	66	16.50	0.54

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
7	202	0.06	4	180	0.03

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 15, Sept, 1964 Total Minutes: 734 Total Miles 115

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
56	72	1.29	0.63

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile				
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B	
53	6	26	0	61	8	32	0	1.17	1.33	1.22	0.00	0.54	0.07	0.28	0.00	
											1.23					

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
6	6	0	7	7	0	1.17	1.17	0.00	0.06	0.06	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	3	3.00	0.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
1	7	0.01	1	7	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 16 Sept 64 Total Minutes: 736 Total Miles 121

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
73	95	1.30	.77-.79

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
12	6	19	0	87	6	22	0	1.71	1.00	1.16	0	.72	.05	.14	0

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
3	3	0	3	3	0	1.00	1.00	1.00	.67	.67	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	4	4.00	.53

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
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VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
1	12	.01	1	12	.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 17 Sept 64 Total Minutes: 740 Total Miles 135

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>25</u>	<u>29</u>	<u>1.16</u>	<u>.21</u>

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
<u>21</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>23</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>1.10</u>	<u>0</u>	<u>1.00</u>	<u>0</u>	<u>.17</u>	<u>0</u>	<u>.03</u>	<u>0</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>3</u>	<u>1</u>	<u>2</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>1.67</u>	<u>2.00</u>	<u>1.50</u>	<u>.14</u>	<u>.01</u>	<u>.02</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u> </u>	<u> </u>	<u> </u>	<u> </u>

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>.01</u>

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u> </u>	<u> </u>	<u> </u>	<u> </u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 18 Sept 64 Total Minutes: 9 Total Miles 144

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
37	42	1.13	0.29

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
33	2	5	0	38	2	5	0	1.15	1.00	1.00	0.00	0.26	0.01	0.03	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1.00	1.00	0.00	0.01	0.01	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	0.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 19, Sept, 1964

Total Minutes: 729

Total Miles 90.129

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
72	93	1.29	1.03 .72

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
67	14	11	1	81	22	14	1	1.21	1.57	1.27	1.00	0.90 0.24 0.01	0.63 .17	0.15	.11

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	3	3	0	3.00	3.00	0.00	0.05 0.05	0.02 0.02	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	4	2.00	0.04 .03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
1	9	0.01	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 20 Sept 64 Total Minutes: 348⁵ Total Miles 63

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
165	1154	7.00	17.71 17.75

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
116	52	20	0	193	845	21	0	8.51	16.26	1.05	0	15.24	13.50	.32	0

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	0	1	1	0	1	1.00	0	1.00	.02	0	.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
40	118	2.95	1.92

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
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VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
27	0	22	5	40	0	33	7	1.48	0	1.50	1.40	.62	0	.51	.11

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	.03

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
7	811	.11	1	10	.22

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 2 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	19 59	157 00														
0200	19 48	157 00														
0300	19 37	157 00														
0400	19 25	157 02														
0500	19 15	157 01														
0600	19 05	157 00														
0700	19 02	156 57														
0800	19 02	156 57	03		10	1015.0	263	21		5		90-5-8	26.1	17	100	S-12
0900	18 56	156 57														
1000	18 45	156 57														
1100	18 35	156 58														
1200	18 25	156 59														
1300	18 13	157 00														
1400	18 02	157 01	01		10	1014.4	259	21		2		90-5-4	25.9	24	80	S-12
1500	17 51	157 01														
1600	17 41	157 01														
1700	17 31	157 01														
1800	17 30	157 01														
1900	17 28	157 01														
2000	17 18	157 00	02		10	1014.2	261	21		7		90-5-5	26.4	24	70	S-12
2100	17 12	157 00														
2200	17 00	157 00														
2300	16 48	157 00														
2400	16 38	157 00														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 3 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16 27	157 01													
0200	16 16	157 01	02	10	1014.3	26.2	22		1		40-5-4	26.5	26	60	5-12
0300	16 07	157 01													
0400	16 02	157 01													
0500	16 02	157 01													
0600	15 50	157 01													
0700	15 39	157 01													
0800	15 28	157 01	16	5	1014.0	25.1	22		9		80-5-6	26.7	25	70	5-12
0900	15 18	157 00													
1000	15 04	156 59													
1100	14 52	156 59													
1200	14 40	156 59													
1300	14 30	157 01													
1400	14 30	157 01	50	2	1012.2	26.2	24		9		90-6-6	26.7	16	140	5-12
1500	14 30	157 01													
1600	14 30	157 01													
1700	14 30	157 01													
1800	14 20	157 01													
1900	14 09	157 00													
2000	13 57	157 00	02	5	1011.9	27.0	24		9		90-5-5	26.7	12	190	5-12
2100	13 50	157 00													
2200	13 40	157 01													
2300	13 29	157 02													
2400	13 18	157 03													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 4 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13 07	157 04														
0200	13 01	157 04	01		10	1012.5	266	24		0		200-5-5	269	18	200	S-12
0300	13 01	157 04														
0400	13 01	157 04														
0500	12 55	157 04														
0600	12 43	157 05														
0700	12 30	157 03														
0800	12 18	157 02	01		10	1013.9	264	23		5		50-5-4	268	11	170	S-12
0900	12 06	157 01														
1000	11 53	157 00														
1100	11 42	157 00														
1200	11 30	157 00														
1300	11 30	157 00														
1400	11 27	156 58	03		10	1013.1	274	23		3		50-5-4	273	6	150	S-12
1500	11 23	156 48														
1600	11 18	156 38														
1700	11 13	156 28														
1800	11 09	156 18														
1900	11 04	156 09														
2000	10 58	155 58	02		10	1013.8	269	22		3		60-6-4	275	6	100	SE-12
2100	10 55	155 53														
2200	10 50	155 42														
2300	10 44	155 31														
2400	10 39	155 20														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 5 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	10 33	155 09													
0200	10 28	154 58	03	2	1013.8	261	23		9		60-6-3	273	06	70	SE-12
0300	10 22	154 47													
0400	10 17	154 36													
0500	10 11	154 25													
0600	10 06	154 14													
0700	10 01	154 03													
0800	09 59	153 58	02	10	1013.9	259	23		6		49-6-2	271	07	130	E-12
0900	10 05	153 58													
1000	10 18	153 58													
1100	10 30	153 58													
1200	10 42	153 58													
1300	10 55	153 59													
1400	11 08	153 59	02	25	1012.5	290	23		5		49-6-2	277	10	70	N-12
1500	11 21	154 00													
1600	11 34	154 00													
1700	11 34	154 00													
1800	11 38	154 00													
1900	11 50	154 00													
2000	12 03	154 02	03	10	1013.0	261	23		5		49-6-2	275	12	40	N-12
2100	12 11	154 04													
2200	12 23	154 06													
2300	12 35	154 06													
2400	12 47	154 08													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
*WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

*49 = Confused

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 6 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13 01	154 10														
0200	13 02	154 10	01		10	1013.0	263	22		3		50-5-0	271	14	50	N-12
0300	13 12	154 11														
0400	13 24	154 12														
0500	13 36	154 14														
0600	13 48	154 15														
0700	14 00	154 13														
0800	14 12	154 09	02		10	1014.0	266	24		4		30-5-4	268	18	30	N-12
0900	14 24	154 05														
1000	14 30	154 04														
1100	14 32	154 04														
1200	14 44	154 03														
1300	14 56	154 02														
1400	15 08	154 01	02		10	1012.3	268	22		4		20-5-3	269	16	30	N-12
1500	15 20	154 00														
1600	15 32	154 00														
1700	15 44	153 59														
1800	15 55	153 58														
1900	16 00	153 59														
2000	16 05	153 55	03		10	1014.3	263	23		5		20-5-5	263	16	50	N-12
2100	16 10	153 58														
2200	16 22	153 58														
2300	16 34	153 58														
2400	16 46	153 58														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 7 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16 58	153 58														
0200	17 10	153 58	01		10	1014.0	255	22		0		50-6-5	259	19	050	N-12
0300	17 22	153 58														
0400	17 31	153 58														
0500	17 32	153 58														
0600	17 43	153 58														
0700	17 54	153 58														
0800	18 06	153 57	03		10	1015.0	261	22		8		40-6-6	261	21	080	N-12
0900	18 17	153 58														
1000	18 28	153 58														
1100	18 39	153 58														
1200	18 49	153 58														
1300	19 00	153 58														
1400	19 01	153 58	01		10	1015.1	260	20		3		60-6-3	256	19	070	N-12
1500	19 13	153 58														
1600	19 25	153 59														
1700	19 37	153 59														
1800	19 49	154 00														
1900	20 00	154 00														
2000	20 12	154 00	02		10	1015.4	258	21		2		50-6-3	256	17	060	N-12
2100	20 18	154 00														
2200	20 30	154 00														
2300	20 32	153 59														
2400	20 39	153 59														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 8 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 52	153 58														
0200	21 04	153 59	02		10	1016.9	259	21		2		60-6-4	254	22	50	N-12
0300	21 16	153 59														
0400	21 29	153 59														
0500	21 41	153 59														
0600	21 53	153 59														
0700	22 00	153 58														
0800	22 05	153 57	02		10	1017.2	250	21		4		50-6-4	253	13	70	N-12
0900	22 17	153 57														
1000	22 29	153 56														
1100	22 41	153 58														
1200	22 52	154 00														
1300	23 05	154 00														
1400	23 17	153 59	01		10	1017.5	264	21		3		40-5-4	255	17	90	N-12
1500	23 28	153 58														
1600	23 30	153 57														
1700	23 30	153 47														
1800	23 30	153 35														
1900	23 30	153 24														
2000	23 30	153 12	18		5	1014.1	249	19		8		80-5-5	256	18	100	E-12
2100	23 30	153 07														
2200	23 30	152 55														
2300	23 30	152 43														
2400	23 30	152 32														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 9 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	23 30	152 21													
0200	23 30	152 09	20	5	1019.0	239	18		7		100-6-5	254	16	100	E-12
0300	23 30	151 58													
0400	23 30	151 45													
0500	23 30	151 37													
0600	23 30	151 27													
0700	23 27	151 17													
0800	23 27	151 06	04	10	1020.2	235	19		7		50-6-5	250	17	70	E-12
0900	23 27	151 00													
1000	23 23	151 00													
1100	23 10	151 00													
1200	23 00	151 02													
1300	22 49	151 02													
1400	22 38	151 02	01	10	1018.8	240	19		6		130-6-5	249	14	140	S-12
1500	22 27	151 01													
1600	22 15	151 01													
1700	22 03	151 01													
1800	22 00	151 01													
1900	21 57	151 01													
2000	21 45	151 00	01	10	1019.0	251	19		3		60-6-5	276	23	60	S-12
2100	21 41	151 00													
2200	21 29	151 00													
2300	21 15	151 00													
2400	21 06	151 00													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955c
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 10 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 55	151 55													
0200	20 53	151 54	50	2	1017.7	247	20		7		10-6-5	255	23	60	5-12
0300	20 52	151 57													
0400	20 52	151 56													
0500	20 50	151 59													
0600	20 55	151 58													
0700	20 57	151 58													
0800	20 53	151 58	02	10	1016.4	241	20		7		120-6-5	256	14	100	5-12
0900	19 51	151 58													
1000	19 35	151 57													
1100	19 18	151 57													
1200	19 07	151 57													
1300	18 55	151 57													
1400	18 50	151 57	01	10	1014.3	261	20		3		50-6-6	258	16	50	5-12
1500	18 44	151 57													
1600	18 32	151 56													
1700	18 20	151 56													
1800	18 07	151 56													
1900	17 55	151 56													
2000	17 43	151 52	16	2	1015.8	251	21		8		70-6-6	259	20	50	5-12
2100	17 38	151 52													
2200	17 31	151 52													
2300	17 30	151 52													
2400	17 30	151 52													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 11 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17 14	151 41														
0200	17 07	151 34	01		5	1014.3	24.5	21		5		70-6-7	23.7	21	70	S-12
0300	16 51	151 27														
0400	16 39	151 19														
0500	16 28	151 10														
0600	16 16	151 03														
0700	16 08	150 53														
0800	15 58	150 43	02		10	1014.1	24.7	22		5		70-6-7	23.7	20	60	S-12
0900	15 57	150 33														
1000	15 41	150 24														
1100	15 24	150 14														
1200	15 12	150 07														
1300	15 04	149 58														
1400	14 57	149 52	01		10	1013.9	24.8	22		4		70-6-5	24.1	20	70	S-12
1500	14 50	149 48														
1600	14 38	149 40														
1700	14 28	149 32														
1800	14 16	149 22														
1900	14 08	149 18														
2000	13 57	149 09	03		10	1014.2	24.8	23		8		70-6-5	24.4	19	70	S-12
2100	13 45	149 02														
2200	13 38	148 58														
2300	13 28	148 50														
2400	13 14	148 40														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 12 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17 06	151 51														
0200	17 27	151 51	02		5	1019.1	26.0	24		5		70-100	21.5	7	10	10-12
0300	17 56	151 51														
0400	18 10	151 51														
0500	18 22	151 30														
0600	18 26	151 33														
0700	18 51	151 38														
0800	19 50	151 03	02		5	1019.1	26.1	24		7		70-100	21.5	7	210	10-12
0900	19 46	151 02														
1000	19 36	151 00														
1100	19 28	150 59														
1200	19 27	150 59														
1300	19 22	150 58														
1400	19 17	150 37	01		5	1019.1	25.8	23		4		70-100	21.7	7	10	10-12
1500	19 12	150 26														
1600	19 08	150 15														
1700	19 04	150 05														
1800	19 00	149 55														
1900	19 00	149 35														
2000	19 00	149 35	02		10	1019.1	25.8	23		7		70-100	21.7	7	10	10-12
2100	19 00	149 35														
2200	19 00	149 35														
2300	19 00	149 35														
2400	19 00	149 35														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 13 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	10 53	141 45														
0200	10 15	141 34	01		10	1012.5	255	24		3		50-6-3	273	15	50	SE 12
0300	10 09	141 37														
0400	10 04	141 11														
0500	09 55	141 59														
0600	09 51	142 58														
0700	10 04	142 57														
0800	10 15	142 31	01		10	1013.9	269	24		4		20-5-5	271	19	50	N-12
0900	10 22	142 51														
1000	10 27	142 5														
1100	10 35	142 28														
1200	10 40	142 3														
1300	11 12	142 1														
1400	11 24	142 52	01		10	1012.5	270	24		2		40-5-5	271	19	50	N-12
1500	11 30	142 52														
1600	11 31	142 3														
1700	11 41	142 11														
1800	11 58	142 4														
1900	12 09	142 47														
2000	12 20	142 22	03		10	1013.0	272	24		6		40-5-5	269	15	50	N-12
2100	12 25	142 2														
2200	12 27	142 8														
2300	12 30	142 1														
2400	12 32	142 1														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 14 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15 10	148 20														
0200	15 12	148 20	20		5	1014.0	259	25		6		40-5-5	269	18	40	N-12
0300	15 20	148 20														
0400	15 22	148 20														
0500	15 24	148 20														
0600	15 26	148 20														
0700	15 28	148 20														
0800	15 28	148 20	01		10	1015.3	260	25		3		20-5-5	266	19	20	N-12
0900	15 28	148 20														
1000	15 28	148 20														
1100	15 28	148 20														
1200	15 28	148 20														
1300	15 28	148 20														
1400	15 28	148 20	14		10	1013.9	270	24		6		40-5-5	263	20	80	N-12
1500	15 28	148 20														
1600	15 28	148 20														
1700	15 28	148 20														
1800	15 28	148 20														
1900	15 28	148 20														
2000	16 15	148 22	01		10	1016.6	265	23		8		40-5-5	263	21	80	N-12
2100	16 20	148 22														
2200	16 30	148 22														
2300	16 43	148 22														
2400	16 54	148 22														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 15 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17 06	1418 61														
0200	17 15	1417 54	30		05	1016.5	231	23		6		40-5-5	259	21	60	N-12
0300	17 21	1417 52														
0400	17 27	1417 52														
0500	17 27	1417 54														
0600	17 29	1417 54														
0700	17 33	1417 54														
0800	17 43	1417 54	01		10	1017.8	235	21		2		60-5-5	260	22	70	N-12
0900	17 52	1417 54														
1000	18 00	1417 54														
1100	18 14	1417 54														
1200	18 29	1417 54														
1300	18 40	1417 54														
1400	18 51	1417 54	03		10	1017.4	232	22		8		60-5-5	259	13	60	N-12
1500	18 58	1417 54														
1600	19 02	1417 56														
1700	19 13	1417 54														
1800	19 24	1417 57														
1900	19 35	1417 55														
2000	19 47	1418 52	01		10	1018.2	235	21		4		70-5-5	252	17	70	N-12
2100	19 52	1418 52														
2200	20 05	1418 52														
2300	20 14	1418 54														
2400	20 24	1418 54														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 16 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 32	147 52													
0200	20 40	147 52	0 2	10	1018.0	240	20		4		60-5-5	233	17	40	N-12
0300	20 43	147 52													
0400	21 05	147 52													
0500	21 18	147 52													
0600	21 30	147 52													
0700	21 47	147 52													
0800	21 54	147 52	14	10	1018.4	244	20		6		20-5-5	233	10	60	N-12
0900	22 02	147 52													
1000	22 02	147 52													
1100	22 12	147 52													
1200	22 26	147 52													
1300	22 38	147 52													
1400	22 44	147 52	0 1	10	1016.8	232	20		2		30-5-5	230	18	80	N-12
1500	23 00	147 52													
1600	23 12	147 52													
1700	23 24	147 52													
1800	23 27	147 52													
1900	23 33	147 52													
2000	23 45	147 52	0 1	10	1019.0	246	19		3		30-5-5	230	15	80	N-12
2100	23 50	147 52													
2200	24 02	147 52													
2300	24 11	147 52													
2400	24 23	147 52													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 19 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	24 35	147 55														
0200	24 42	147 55	32		10	1018.7	21.2	11		H		30°S-3	24.5	16	70	14-12
0300	25 00	147 55														
0400	25 00	147 55														
0500	25 08	147 57														
0600	25 26	147 57														
0700	25 33	147 58														
0800	25 45	148 00	31		10	1021.1	23.2	19				30°S-3	24.5	16	70	14-12
0900	25 53	148 02														
1000	26 10	148 02														
1100	26 21	148 06														
1200	26 28	148 08														
1300	26 27	148 06														
1400	26 36	148 17	16		10	1021.1	33.4	20		7		10°S-3	24.8	16	70	32-12
1500	26 16	148 22														
1600	26 11	148 39														
1700	26 06	148 49														
1800	26 01	149 01														
1900	25 55	149 13														
2000	25 49	149 25	31		10	1021.7	24.1	28		5		30°S-4	24.7	16	70	34-13
2100	25 46	149 20														
2200	25 40	149 4.3														
2300	25 34	149 54														
2400	25 28	150 05														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 18 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25 02	150 16														
0200	25 15	150 28	102		10	1020.5	23.1	20.0				49-50	24.7	14	90	100 5
0300	25 27	150 41														
0400	25 02	150 52														
0500	24 58	151 05														
0600	24 53	151 05														
0700	24 55	151 14														
0800	24 58	151 28	102		10	1020.5	23.3	20.0				49-50	24.7	14	90	100 5
0900	24 56	151 41														
1000	24 57	151 55														
1100	24 58	152 09														
1200	24 59	152 22														
1300	24 59	152 35														
1400	24 59	152 50	102		10	1020.1	23.0	20.0				49-50	24.7	14	90	100 5
1500	24 59	153 05														
1600	25 02	153 17														
1700	25 00	153 31														
1800	25 00	153 43														
1900	25 00	153 54														
2000	25 00	154 01	102		10	1020.5	23.0	20.0				49-50	24.7	14	90	100 5
2100	25 00	154 11														
2200	25 00	154 11														
2300	25 00	154 21														
2400	25 00	154 31														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 19 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25 00	154 55														
0200	25 00	155 08	01		10	1021.2	23.4	20		1		70-1-2	24.8		80	100-10
0300	25 00	155 22														
0400	25 00	155 36														
0500	25 00	155 50														
0600	24 59	156 05														
0700	24 59	156 20														
0800	24 59	156 34	02		10	1022.5	23.9	20		2		70-1-2	25.3		80	100-10
0900	24 58	156 49														
1000	24 58	157 00														
1100	24 59	157 00														
1200	24 59	157 00														
1300	24 59	157 00														
1400	24 58	157 00	04		5	1023.0	24.1	20		1		70-1-2	25.9		80	100-10
1500	24 58	157 00														
1600	24 58	157 00														
1700	24 58	157 00														
1800	24 58	157 00														
1900	24 58	157 00														
2000	24 58	157 00	01		5	1020.7	25.9	23		7		70-1-2	25.6	11	90	100-10
2100	24 58	157 00														
2200	24 58	157 00														
2300	24 58	157 00														
2400	24 58	157 00														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 20 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	22 14	157 00														
0200	22 33	157 21	1016.9		5	27.5	22			7		150-4-5	28	23	80	S-12
0300	22 21	157 22														
0400	22 23	157 23														
0500	22 25	157 30														
0600	21 55	157 05														
0700	21 50	157 11														
0800	21 45	157 17	1017.6		10	26.0	23			3		100-14	28	24	80	S-12
0900	21 33	157 24														
1000	21 25	157 31														
1100	21 15	157 39														
1200	IN PORT															
1300		55														
1400																
1500																
1600																
1700																
1800																
1900																
2000																
2100																
2200																
2300																
2400																

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 15 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100																
0200																
0300																
0400																
0500																
0600																
0700																
0800																
0900																
1000																
1100																
1200																
1300	21 19	157 50														
1400	21 12	157 51														
1500	21 05	157 44														
1600	20 58	157 34														
1700	20 52	157 31														
1800	20 45	157 24														
1900	20 39	157 16														
2000	20 34	157 16														
2100	20 34	157 16														
2200	20 29	157 14														
2300	20 18	157 06														
2400	20 09	157 01														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS